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An Address

ON THE NATURE OF MAN'S STRUCTURAL IMPERFECTIONS.

Being the Lloyd Roberts Lecture given to the Royal Society of Medicine on Nov. 16th, 1925,

BY SIR ARTHUR KEITH, F.R.S.,
CONSERVATOR OF THE MUSEUM OF THE ROYAL COLLEGE OF SURGEONS, ENGLAND.

BETWEEN the activities of Archdeacon Paley and those of Élie Metchnikoff lies the greater part of the nineteenth century. At the beginning of that century we find the Archdeacon extolling the perfections of the human body, just as Celsus had done 16 centuries before him.[1] By the close of the nineteenth century the alert and fearless brain of Elie Metchnikoff had discovered, or believed it had discovered, that the human body was blemished by many imperfections. The evangelist of this new and startling doctrine approached the study of man's body by an untrodden pathway, one made possible by the advancing science of his day. On his arrival at the Institut Pasteur in 1888, being then 43 years of age, he set himself to investigate the means by which the human body combats and keeps at bay the swarming hosts of micro-organisms which find a natural habitat in its internal passages and recesses. He saw man's body as a battlefield—the scene of a perpetual warfare—and as his investigation proceeded the conviction grew on him that the chances of the body's success were imperilled by a heritage of structures which had become out of date and useless.

In the Wild lecture, given before the Literary and Philosophical Society of Manchester on April 22nd, 1901, he declared that man "was being killed by his intestinal flora," and that his great bowel had not only become useless, but was a positive and continual menace to the rest of his body. He believed that the stomach itself, and also part of the small intestine, could be dispensed with. Early in 1903 appeared "Études sur la Nature Humaine,"[2] in which Metchnikoff greatly extended the list of man's structural imperfections.

Between the times of Paley and of Metchnikoff lie three great discoveries, and we must take note of them if we are to understand how it was possible for the one to praise the perfection of man's structure at the beginning of the nineteenth century and the other to condemn its imperfections at the end. There was first the discovery that man's body was an aggregate or society of living microscopical units; it was Metchnikoff's fortune to approach the study of man's highly complex body through the simpler societies represented by the bodies of the lower invertebrates; it was thus he came by his discovery that certain units of such societies retain their freedom, thus permitting them to serve as scavengers or phagocytes. In the second place there was Darwin's discovery; Metchnikoff was a convinced evolutionist. He therefore presumed that the alimentary outfit which served in an anthropoid phase of human evolution must be ill-adapted to deal with the dietary of civilised man. There was in the third place Pasteur's discovery, and so far as Metchnikoff's outlook was concerned this was the most potent of the three. It was under the influence of Pasteur's discoveries that Metchnikoff came to think that the destiny of man lay in the issue of the everlasting contest which went on between the living tissues of his body and the invading hosts of micro-organisms which threatened them. It is noteworthy that of the three men—Darwin, Pasteur, and Metchnikoff—who revolutionised in the nineteenth century our conception of man's body, and of the struggles to which it is subjected, not one of them was a professed anatomist; the anatomist stood too near to the subject of his study to see it in its true p rspective.

Twenty-two years have come and gone since Metchnikoff's studies on "La Nature Humaine"[3] first appeared, and I propose in this lecture to ascertain how far his doctrines of man's structural imperfections and functional disharmonies has stood the test of time. His thesis presumed that Darwin's theory of man's origin was true; that presumption has been supported by every discovery of the present century, and such evidence as we now have justifies us in believing that the rate of man's evolution has been more rapid than has hitherto been supposed.[4]

THE INFLUENCE OF CIVILISATION.

We realise to-day, more precisely than was possible when Metchnikoff wrote, that the most critical chapter in man's long history opened with the discovery of agriculture, a discovery of but yesterday if we reckon time on a geological scale. Agriculture revolutionised the conditions of human life; it made modern civilisation possible. We have reason to believe that this revolution in the condition of man's life was initiated either in Mesopotamia, Egypt, or adjacent lands, not more than 8000 years ago. It is certainly not more than 5000 years ago since agriculture began to be practised in Western Europe. The vast majority of the people of these islands, probably 90 per cent. of them, are the descendants of men and women who, 200 generations ago, were dependent on the natural but precarious harvest which is provided by shore, river, forest, and moorland. City life is a new experiment for Europeans; most of us who live in London, if we could go back 20 generations, would find an ancestry which was living on the soil and of the soil. And now the poorest of us can add to our dietary produce brought from the ends of the earth. The alimentary system which was evolved to meet the needs of our primitive ancestors has now to accommodate itself to a modern dietary.

Beyond a doubt civilisation is submitting the human body to a vast and critical experiment. It is not only the alimentary system which is being subjected to new conditions; the bony and muscular framework of our bodies are being subjected to novel stresses. Of the present manhood of Britain, half earns its bread by muscular labour; the other half lives sedentary lives. Our forefathers when they arrived in Western Europe were hunters; their bodies were unaccustomed to either manual labour or an indoor life; under the stress of civilisation the hunter's body has to serve modern needs. It says much for the adaptability of the human body that it stands these stresses so well as it does. Dr. J. D. Comrie,[5] on examining 10,000 recruits for the army, found that 363 of them suffered from hernia and 113 from flat-foot. Such breakdowns in the supporting system of the body do not occur with this frequency among hunting peoples. Civilisation has laid bare some of the weak points in the human body, but the conditions which have provoked them are not of Nature's ordaining, but of man's choosing.

If modern civilisation is making new demands on our bones, muscles, and nerve controls it is other-

[1] See Evolution of Anatomy, by Dr. Charles Singer (1925), p. 50.

[2] An English translation, edited by Dr. P. Chalmers Mitchell, was published in 1904 under the title The Nature of Man (Heinemann).

[3] In 1907 Metchnikoff published a further work, of which an English translation appeared in the same year, edited by Dr. P. Chalmers Mitchell, under the title The Prolongation of Life. In this Metchnikoff replied to his critics and produced more evidence in support of his thesis. Sir W. Arbuthnot Lane formed the opinion that the great intestine was a useless and dangerous structure independently of Metchnikoff; so also did Prof. Barclay Smith (see an article on the Nature of the Cæcum and Appendix by the present lecturer in Brit. Med. Jour., 1912, ii., 1599).

[4] See Concerning the Rate of Man's Evolution, Nature (special supplement), August 18th, 1923.

[5] THE LANCET, 1919, ii., 959.

wise with another important system of our bodies. As our manner of living increases in comfort the calls on our heat-regulating mechanism become fewer in number and less urgent in character. Our primitive forefathers lived in the open; their bodies, unhoused and scantily clad, were exposed to sun, rain, wind, and storm. Such a mode of life throws an increasing burden on the machinery which regulates body temperature—on skin, on respiratory mucous membrane, and on that elaborate system of reflexes which control the rate of internal combustion. Modern civilisation, so far as temperature is concerned, tends to make the human body a hothouse plant.

FAILURES OF ADAPTATION.

Metchnikoff perceived that civilisation had plunged man's body into a new environment, and that the rate of its progress had far outstripped the power of adaptional response which had carried man so far beyond the anthropoid stage. A belief grew within him—almost a grudge—that Nature was letting man down. He brought against the evolutionary powers which preside over the destiny of man both sins of omission and sins of commission. We shall deal with a sample of each. The first complaint on his list of omissions is that we have not shed from our skins the last remnants of an anthropoid pelage; hair on the body, he held, was useless and a source of disease. Whether or not a completely hairless body is desirable we may leave as a moot point; a hairless breed of dogs has been produced, and, no doubt, a hairless race of man could be evolved. In this matter the Caucasian has been outstripped by the Negro and by the Mongol, the most hairless of races. It is more to the point to inquire how man has come by a comparatively hairless skin, and in the solution of this problem we have been making some advance. A hairless condition became possible with the evolution of the higher vertebrates; a fœtus in the womb draws its heat from the mother's body; it has no need of a hairy covering until the period of birth arrives. There is in the Museum of the Royal College of Surgeons of England a chimpanzee fœtus in the eighth month of development; the hair of its head and body has reached a stage identical with that of a newly born child. A stage of development which is evanescent in the fœtal anthropoid has become permanent in us. We have come by a new character through the inheritance of one evolved in fœtal life. Many of our structural features have come to us in this way.[6] The base of the human skull is greatly flexed. In the fœtal stage of all mammals the basicranial axis is bent, but in man only has this character been carried into adult years. Fœtal inheritance becomes more and more possible for man because civilisation tends to make man's world into a protective womb.

As an instance of a sin of commission, the introduction of a new and useless structure to the human body, Metchnikoff cites the case of the hymen. It is scarcely true to describe, as he does, the hymen as a new structure; it is present at a certain stage in the embryonic life of every higher mammal; it is only in the human species that it persists and forms a definite and substantial structure in the fully formed body. The hymen provides another example of the human body coming by a new character by retaining and modifying a structure which made its first appearance during embryonic or fœtal life. When we seek to explain its use, we must enter the purlieus of psychology, for round man's sense of sex has grown up a strange hinterland in his subconscious mind. Metchnikoff described the hymen as "an unpleasant impediment," but love, as the world has long recognised, thrives on impediments. The human prepuce, although not a new structure was, in Metchnikoff's opinion, a useless and dangerous one; circumcision in one generation does not diminish the completeness of its development in the next. In this the prepuce resembles the hymen. Indeed, Metchnikoff said of the latter structure that the only purpose it had ever served was "the overthrow of the dogma of the inheritance of acquired characters."

THE LARGE INTESTINE.

The examples of the failure of man's body to adapt itself to present requirements which I have cited above are of little more than academic interest, but when Metchnikoff applied his analytical genius to the problems of man's alimentary system he carried us into the realms where thought becomes the guide to action. "It would be no longer rash to say (so he wrote in 1903) that not only the rudimentary appendix and the cæcum, but the whole of the human large intestine is superfluous, and that their removal would be attended with happy results." Since Metchnikoff penned this sentence the operation of complete colectomy has been performed on many thousands of men and women, but I do not think that even the surgeons who have performed this operation most frequently and most successfully would maintain that a man or woman who has been rendered colonless enjoys that moderate share of health which falls to the average intact individual. If a finger becomes permanently fixed in an awkward position the hand is improved by the amputation of the offending digit, but the relief thus gained does not restore the hand to its original capacity. The relief afforded by colectomy is of the same kind; the results of that operation in no wise bear out Metchnikoff's doctrine that the colon has become a superfluous organ in man's body. On the other hand, we have only to consult the pages of the medical press, to listen to tales which reach our ears daily, to note the ever-growing demand for patent purgatives, to be convinced that there is, as Metchnikoff maintained, a grave disharmony between the functional capacities of our great intestine and the dietary which modern civilisation has compelled us to adopt. The way out of our difficulties is not to call the colon a useless organ, a "sewage pipe," a "cesspool," but to discover its original purpose and ascertain how far we can modify our mode of living to suit its inherited capacity. What that capacity is we have yet to discover, for we have no complete or exact knowledge of the uses of the great intestine in any animal whatsoever. So far as the human organ is concerned surgery has stepped far in advance of physiology.[7]

Since Metchnikoff first promulgated his belief that the appendix, cæcum, and colon had become superfluous organs in man's body our knowledge concerning the evolution of these structures and of certain conditions which regulate their action has increased. That increase of knowledge rehabilitates the ancient belief that Nature in her evolutionary mood exercises not only a surprising ingenuity but also the strictest economy. The ferments and catalysts elaborated by plants for their own use were made to serve in the animal body as vitamins. How necessary such substances are for the proper working of the great bowel has been shown by the recent researches of McCarrison[8] and of Cramer.[9] It was for the purposes of economy that the great bowel came into existence. In fishes, the earliest vertebrate forms known to us in the living state, potent digestive juices have to be produced at the expense of body tissues; with the evolution of land-living, air-breathing forms much of this expenditure was saved by the utilisation of bacterial digestion. The great bowel was added to the original intestine for this purpose, the oldest part

[6] Prof. Louis Bolk: The Part Played by the Endocrine Glands in the Evolution of Man, THE LANCET, 1921, ii., 588. See also Keith: The Evolution of Human Races in the Light of the Hormone Theory, Johns Hopkins Hospital Bulletin, 1922, xxxiii., 195.

[7] The reader will find a summary of the anatomical evidence relating to the nature of the appendix, cæcum, and great bowel by the lecturer in Brit. Med. Jour., 1912, ii., 1599.

[8] Lieut.-Colonel R. McCarrison: Faulty Food in Relationship to Gastro-Intestinal Disorders, THE LANCET, 1922, i., 207. Other references to Colonel McCarrison's researches will be found in this paper.

[9] Dr. W. Cramer: THE LANCET, 1921, ii., 1202; 1924, i., 636.

of this annex being the cæcum and appendix. The great bowel, as we know it in fishes, is a mere diverticulum from the hinder end of the gut; it takes no part in the digestion of food. Its epithelium forms a glandular structure which has all the appearance of an organ designed for the supply of an internal secretion.[10] That secretion, whatever it may prove to be, is carried to the liver by the inferior mesenteric vein. In the mucous membrane of the human great bowel there is set embedded in a stratum of reticular tissue—of reticulo-endothelium—some 15 millions of minute test-tube glands—the glands of Lieberkühn. No one who has noted the structure and setting of these glands and the finer changes which their cells undergo in the course of action, can believe that their sole function is to supply a lubricating fluid for the intestine; they have all the appearance of also supplying an internal secretion, and the evolutionary history of the colon favours such an inference.[11] The reticular stratum of the colon, which Dr. Scott Williamson[12] regards as the most important constituent of its mucous membrane, and in this I agree with him, represents a spleen of considerable size. Indeed, just as the liver and pancreas represent extrusions of highly specialised parts of the intestinal epithelium, the spleen represents a specialisation of the reticulo-endothelium of the alimentary canal; indeed, in Cyclostomes[13] the spleen is still intra-intestinal. Nor must we forget how closely the great intestine is linked to the central nervous system—both by afferent and efferent pathways. When we take all these considerations into account, we must conclude that the great bowel of man is not a useless or superfluous organ, but one which we, in our ignorance, are maltreating.

THE APPENDIX.

Darwin regarded the appendix as one of man's vestigial structures, and Metchnikoff accepted this verdict without demur, although there were then anatomists, particularly Prof. R. J. Berry,[14] who refused to regard the appendix as a useless structure. Every child is born with a fully and well-developed appendix, which varies in length round a mean of 35 mm. Ribbert's investigations[15] showed that amongst the Swiss the appendix has reached its maximum length, 97 mm., by the twentieth year; thereafter the average length falls slowly, so that by the sixtieth year it has become reduced to 85 mm. Prof. Berry[16] found in the population of Edinburgh that the appendix did not attain its full length, 89 mm., until the fortieth year, falling to 83 mm. by the sixtieth year. Dr. Garcia and Dr. Salloza[17] measured the length of the appendix amongst Phillipinos—a people living chiefly on a vegetarian dietary. By the twentieth year the appendix of this people had attained a length of 81 mm.; its maximum length, 96 mm., was not reached until the fiftieth year, while the average length fell to 82 mm. by the seventieth year. An organ which increases in length until the twentieth year, or even until the fiftieth, does not merit the name vestigial. The size of the appendix at birth in the various forms of anthropoid apes we do not know, but in adult gorillas, chimpanzees, and orangs the appendix usually attains a length of 150 or 160 mm.—nearly double the length of the human appendix. In the most primitive form of anthropoid known to us, the gibbon, the appendix is most variable in length. In six animals which I dissected fresh from the jungle, all of them adult, the appendix varied in length from 75 mm. to 175 mm. In two of the animals the cæcal contents were laden with numerous fruit stones as large as those of a cherry; the appendix in these two cases held a row of fruit stones, showing that it shared in the digestive work of the cæcum. There is no evidence to lead us to believe that anthropoid apes suffer from appendicitis in their natural habitat; they become subject to this disease when kept in confinement. Of 61 chimpanzees dying in captivity, ten of them suffered from appendicitis.[18] The evidence, such as it is, leads us to believe that when the appendix breaks down under the conditions of modern civilisation it does so not because it is "vestigial," but because of its inability to withstand the conditions to which it is being exposed.

To express the real nature of the structural and functional imperfections seen in the human appendix it is convenient to use a term coined by the late Sir William Gowers. He noted that in some families certain structures, such as the hair on the crown of the head, was apt to be shed as the result of a premature atrophy of the scalp. To such instances of premature senility on the part of any organ or structure he applied the term *abiotrophy*.[19] In this sense the appendix is an abiotrophic structure, one which is apt to suffer from a disordered life-history; in a large proportion of Europeans it becomes atrophic or senile when other parts of the body are in full vigour. On the evidence collected by anatomists and pathologists it is permissible to infer that if we could follow the life-histories of 1000 modern Europeans from birth to their seventieth year the following would be the fate of their appendices. By the end of the tenth year the lumen of this structure would be partially or completely obliterated in 40 of them; by the twentieth year the same fate would have overtaken 70 more; by the thirtieth year 60 others would have been added to the list; by the fortieth year 80 further cases of obliteration would have occurred; by the sixtieth year there would be 110 additional cases. Of the 1000 people who reached the age of 70, only 500 of them would retain their appendix in an unblemished functional state; in the other 500 the appendix would have undergone a premature atrophy at succeeding stages in the journey through life. In this the appendix keeps company with all structures which are of a lymphoidal nature. The tonsils, the thymus, lymphatic glands, and Peyer's patches have similar life-histories, but no one would describe them as vestiges or rudiments. There is much in the name we apply to structures; when we name them "vestigial," "congenital," or "useless" we shut the door on all further inquiry. As Paley declared a century ago, our list of "useless" structures decreases as our stock of knowledge increases.

THE EYE.

The eye, which is man's chief organ of sense has, under the stress of civilisation, become the subject of a wrong growth or abiotrophy. If we take 1000 men or women over the age of 25 we shall find that about 150 of them suffer from a degree of myopia which prevents them from seeing distant objects clearly. And yet in all of them, just as was the case of the appendix, the eye was normal at birth; the incidence of the disorder is somewhat similar to that of the appendix; it appears during the period in which the eye is undergoing growth—a process of the most complex kind[20]; in a few, myopic changes appear by the fifth year, the highest rate of incidence taking place as puberty is reached and passed. We

[10] Dr. Doris R. Crofts: Proc. Zool. Soc., 1925, Part I., pp. 101–170.
[11] I have not mentioned the excretory function of the colon. This has been investigated by Dr. Owen T. Williams, Brit. Med. Jour., 1912, ii., 1281.
[12] Brit. Jour. Surg., 1914, ii., 306.
[13] J. Mawas: C. R. Acad. de Science, 1922, clxxiv., pp. 889–1041.
[14] Anat. Anz., 1895, x., 761; Jour. Anat. and Physiol., 1906, xl., 247.
[15] Prof. Ribbert: Virchow's Archives, 1893, cxxxii., 66.
[16] Prof. R. J. Berry: Anat. Anz., 1895, x.
[17] Garcia and Salloza: Philippine Jour. of Science, 1921, xviii., 707. See also Fawcett and Blackford, Jour. Anat. and Physiol., 1900, xxxiv., 21, and Sir Rutherford Macphail, Ibid., 917, li., 306.
[18] Weinberg: Bull de la Soc. de Path., 1908, i., 556.
[19] Subsequently the reader will see that I use this term in a somewhat wider sense—one which includes irregular as well as reduced growth.
[20] I have dealt with the incidence and nature of myopia in Brit. Jour. of Physiological Optics, 1925, i., 369.

cannot believe that among our hunting ancestors, for whom distant sight was so vital, every seventh man was myopic.

Myopia we must regard as a structural disharmony occasioned by the conditions which civilisation has entailed on us. Short-sight, as Dr. John Kirk has stated,[21] is certainly a disorder of growth, and the essential problem is to discover not why 15 per cent. of our population suffers from it, but why it does not occur in the remaining 85 per cent. Children may be fed on the same food and undergo the same school tasks, yet only in certain individuals does the eyeball undergo abnormal elongation. They only are affected by modern conditions, the others are not.

Perhaps no structure in the human body illustrates abiotrophic changes so well as the lens of the eye. By the age of 45 the elasticity of the lens has become so reduced in most of us that we have to seek the aid of spectacles. Some time ago Mr. Ernest Clarke [22] examined the eyes of 1200 people of all ages, and charted in graphic form the condition of the lens. From that chart we can see that some individuals at the age of 45 retain the elasticity of lens which is normal at 35 years of age, while others have reached a stage usually found in men and women of 60. It is with the lens of the eye, as with the appendix, abiotrophy sets in prematurely in some; in others the change is delayed.

THE TERM OF LIFE NATURAL TO MAN.

The consideration of the functional failure of the lens of the eye brings us to a problem which fascinated Metchnikoff. What is the term of life which is natural to man? Metchnikoff inclined to place it at 100 years—that if we escaped accident and disease the inherent vitality of our tissues was sufficient to make a centenarian of everyone—yet at the age of 45 the lens of the normal man is already old; it has reached the term of its full utility. We have no reason to suppose that civilisation has shortened or is shortening its period of usefulness. The indication it affords supports the belief that nature has worked out the evolution of the human family on a mean life tenure of 45 years; she has hitherto run the human army on a short-service system. Unfortunately we have no vital statistics of our nearest allies, the anthropoid apes. Micky, a chimpanzee which died lately in the Zoological Gardens, lived there for 26 years, and was three or four years of age when he arrived. Thirty years ago I made an intensive study on the age changes of the teeth and skulls of the great anthropoid apes, and came to the conclusion that very few of them reached the fifth decade of life. All the elastic tissue and cartilage of the body keep the lens company in their rate of ageing; they lose their resiliency by the middle of the fifth decade. The age of 45 sees the end of the term of childbearing which is normal for women. When we consult the rates of mortality which now prevail we find that a sudden rise sets in during the fifth decade, and this rise assumes a steeper and steeper gradient with every subsequent decade. All of these facts seem to show that 45 was the span allotted to man when he was the blind slave of Nature. Civilisation now permits many men and women to live the span of two such lives, but whether it would be an advantage for civilisation that all should live to be centenarians, as Metchnikoff believed, is a moot point. We must take civilisation in the round; if it has searched out the weak points in our inherited organisation it has also added incalculably to the span and comfort of life.

THE TEETH AND JAWS.

All the structural imperfections of man's body which have been discussed up to this point are of a kind which perish in the grave. We have no means of telling whether or not our remote ancestors suffered from appendicitis or were the victims of myopia. Fortunately, from this point of view there are certain of the durable parts of man's body which manifest abiotrophic changes—the teeth and jaws. During the last 20 years I have had an opportunity of examining the facial parts of over 300 individuals who lived in England more than a thousand years ago, some of them as much as eight or ten thousand years ago. Seven years ago I made an elaborate comparison between 50 of these ancient skulls, 25 of which were adjudged to be those of men and 25 of women, with equal numbers of individuals who had lived in England within the last two centuries.[23] In only three of the 50 ancient skulls did the upper and lower teeth fail to meet in an edge to edge bite; in all of the 50 modern skulls the bite was of the overlapping or scissors type. Our teeth are in an abiotrophic state; the failure of the wisdom teeth or third molars to form, or to erupt if they are formed, is but one symptom of this abiotrophic change: it affects crown, cusp, and root development. In the 50 ancient skulls, instead of 100 upper wisdom teeth, there were only 82, 13 being absent from non-development and 5 from non-eruption. In the 50 modern skulls instead of 100 upper wisdom teeth, there were only 59; 30 of these were absent from non-development, 11 from non-eruption. Such evidence shows that although abiotrophic changes had overtaken the dental system of the Western European as early as the Neolithic period, yet these changes have been accelerated during the more recent centuries. Dental abscesses were nearly as common in the ancient skulls as in the modern; carious teeth, on the other hand, were three times more frequent in modern skulls than in the ancient. The researches of the Mellanbys [24] have proved that the quality of enamel and of dentine, particularly of secondary dentine, has a relation to the vitamin content of a dietary. Equally important for the proper formation of teeth, as McCollum and his colleagues [25] have demonstrated, is the presence in food of a due proportion of certain mineral salts. Nevertheless, although a school of children are exposed equally to unfavourable conditions, it is only in a certain number that dental defects will occur; in this respect the dental system behaves as do all structures which are liable to abiotrophic changes.

In not one of the 50 ancient skulls was the palate contracted, whereas in the 50 modern skulls there were 13 in which this condition was present to a recognisable degree—in more than half of them to a marked extent. No matter which stratum of our population we make observations on, we shall find that every fourth or fifth child or adult we examine possesses a palate which, compared with the older type, may be described as both deformed in shape and reduced in size. I have never seen this defect and irregularity of palatal growth except in skulls from cemeteries of the eighteenth and nineteenth centuries. It may be thought that this irregular growth with reduction in the size of palate, and the defects in the formation of the jaws and face which usually accompany them, are merely the results of the soft and highly prepared kinds of food we eat; with such a dietary the teeth, jaws, and chewing muscles are deprived of the work which fell to them in more primitive times. That this is not the true explanation is proved by this fact. When children are fed, clothed, and exercised exactly alike all are not affected; only some of them develop irregularities of the palate and jaws. There is a special susceptibility to these imperfections in certain races and in certain families.

Amongst modern British people are to be seen various facial characters, particularly in the orbits, in the cheek bones, and in the bony supports of the nose, which are never to be noted in the facial

[21] Brit. Med. Jour., 1921, ii., 8.
[22] Nature, 1916, xcvii., 554.

[23] The details of this comparison were published in Five Lectures issued by the Dental Board of the United Kingdom, 1924.
[24] Dr. E. Mellanby: Brit. Med. Jour., 1912, i., 831; Dr. May Mellanby, Ibid., 1924, ii., 354.
[25] Johns Hopkins Hospital Bulletin, 1922, xxxiii., 202.

framework of people who lived in Britain during the pre-Norman period. When a continental cartoonist seeks to represent John Bull he always emphasises these new facial characteristics. Such changes in the form of the facial bones, like contraction of the palate, which they usually accompany, are not the result of a nasal obstruction such as might be caused by enlarged adenoids or tonsils; the cause lies deeper. The incidence of irregularities in the growth of the face follow the same laws as hold for all abiotrophic structures such as the appendix, the sclerotic coat of the eye, the thymus, and the tonsil. Further research will likely prove that the disorders of growth which overtake all of these structures are linked to a disturbed action of lymphocytes and of all the constituent elements of the lymphoid tissues. Dr. W. Cramer has become convinced that lymphocytes are actively concerned in assimilation of food and in the nutrition of tissues, and that the nature of the dietary does directly affect their activities. It seems to me very probable that a fuller knowledge of the life-histories of lymphocytes, particularly of the office they perform in growing tissues, will go far to explain the disharmonies which civilisation is producing in the bodies of some of us. But the problem of explaining why some members of our community are highly susceptible to these new conditions, while others are less so, and why the majority remain unaffected, will still remain.

CONCLUSION.

I have touched only the fringe of a great subject; I have left undiscussed the numerous imperfections and disharmonies which civilisation has made manifest in structures concerned in the maintenance of posture,[26] and in those which are concerned with the circulation of blood and with the duties of respiration. I have said enough, I believe, to convince you that Metchnikoff was right when he declared that civilisation had launched man on a great experiment. From this experiment there is no turning back. We cannot return to the conditions of human life which prevailed in this country 6000 years ago; there are more people in one of the lesser back streets of London than could find an existence in the whole length and breadth of the Thames valley if we returned to the manner of living of our distant ancestors. We cannot go back; we must go on. Seeing how differently we are now circumstanced in every relationship of life—in food, in drink, in shelter, in warmth, in occupation, and in amusement—the wonder is, not that structural imperfections and functional disharmonies should develop in a proportion of our numbers, but that so many of us should escape harm altogether and enjoy good health. It says much for the adaptational reaction which is inherent to the human body that it withstands the artificial conditions of modern civilisation as well as it does.

How are our bodies to be protected against these ills with which civilisation threatens them? Metchnikoff, a declared and open rebel against Nature, hoped that science might discover some short cut for man's escape, some way of speeding up the evolutionary machinery of his body, and so making it perfectly fitted for the life which ever-advancing civilisation is forcing on mankind. I also believe that science will find a means of escape, but not by Metchnikoff's way. The solution of our problem is a fuller knowledge of the use and working of those parts of our bodies which are most apt to give way under our modern ways of living—the use of such structures as the great bowel. And when we have replaced our ignorance by real knowledge we shall then be in a position, not to adapt our bodily structures to our mode of living, but our mode of living to our bodily structures. This seems to me the best way out.

[26] I have discussed the Imperfections of Man's Postural Structures in Brit. Med. Jour., 1923, i., 451, 493, 545, 587, 642, 669.

An Address

ON THE PROPHYLAXIS OF THE COMMON COLD AND FEBRILE CATARRHS.

Delivered before the Medical Officers of Schools Association on Nov. 6th, 1925,

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IN this paper I use the terms "common cold" and "febrile catarrhs" to indicate all those affections of the respiratory passages ranging from the common cold or coryza, on the one hand, to the diseases known variously as febricula, "flu," P.U.O., "chill," and "influenza" on the other hand, which, however much they differ in their manifestations, have this in common, that they are all infections, and all *begin* in the upper respiratory passages, causing malaise, often pyrexia, and a set-back in the normal healthy progress of adolescence. I intend, also, to deal with the prevention of these diseases *in schools*, especially the boarding schools, in which infection is so much more likely to spread, because the pupils feed, work, and sleep in common dining-halls, studies, class-rooms, and dormitories. Moreover, it is in these schools that great difficulty is experienced in finding adequate sanatorium accommodation for the patients, who so often require skilled nursing and attention in large numbers at the same time. I shall also use the term "influenza" loosely to cover all those febrile manifestations to which I have already alluded.

The appearance of these diseases in epidemic form is a matter of very great importance to schools for two main reasons: 1. Because, even though they run a normal uncomplicated course, they interfere with the work of the individual, whilst if complications arise they may jeopardise his future health and even his life. 2. Because they disorganise the whole life of the school, and are most expensive both as regards time and money. The work of a school medical officer would be reduced by one-half at least if such epidemics could be eliminated.

It would appear logical to begin by a description of the various forms of the disease as met with by medical officers of schools, and the different types which it assumes in different epidemics—e.g., the catarrhal, the anginoid, the intestinal type, and so forth. But I take it that all of us know it, with all its protean manifestations, and that we are agreed that the phenomena of this disease are due to micro-organisms, and that they are acutely infectious. The question as to the particular organisms concerned has not been finally settled, but we know that when cultures are made from the sputum or mucus of affected patients a variety of organisms are usually isolated which, if not the prime or deciding cause, are, at any rate, aiders and abettors or accomplices of the arch-offender, who or whatever he may be. Their entry into the body is by the upper respiratory passages. As to predisposing causes we can say little. It is well known that the vigorous and healthy are attacked almost as readily as those who have a less healthy constitution, though deformities of the nasal septum and turbinate bones, and the presence of unhealthy adenoid and tonsillar tissues no doubt weigh to some extent in the balance.

PREDISPOSING CAUSES.

What we know about predisposing causes is very little, and the prevention of the disease depends largely on the degree of immunity in any community for the time being. I do not mean to say that it counts for nothing if a child sits in a draught, or goes about in wet clothes or imperfectly clad, for these conditions temporarily depress vitality, but in

the majority of our patients we cannot, as a rule, lay much stress on any of those conditions as a contributing cause.

Some blame the inclemency of the weather, and lay stress on seasonal incidence; others point out a certain periodicity in the waves of visitation; but whilst there may be some ground for both of these suggestions, the probability is that we can say little more than that the bodies of mankind have been discovered to be a first-rate culture medium by certain bacteria, which go on increasing in numbers and in virulence until the soil is temporarily exhausted or otherwise made untenable for their activities.

No doubt climate and season are a small factor in their environment which influence the outbreak and decline of epidemics, but it is more likely that the bacteria are themselves the victims of their own activity, and require either fresh feeding-ground or a rotation of bacterial crops before they can thrive again in the same host.

ATTEMPTS AT LOCAL ANTISEPSIS.

Attempts have been made to make the human soil untenable by disinfecting the upper respiratory passages by means of sprays, gargles, nasal douches, &c. But there are two considerations which, to my mind, make it most improbable that these measures can be of any avail.

1. The disinfectants used, if strong enough to kill the germs, will damage the epithelium with which our throats and nostrils are provided to deal with infection.

2. Even if strong enough, their contact with the micro-organisms is so short (for they are soon washed away or diluted) that the protection is likely to last for a question of minutes only. In this connexion I have noticed that where there is much nasal catarrh, constitutional symptoms do not develop so often or so severely. For by the catarrh Nature fixes and localises the disease to the naso-pharynx and "deals with it," so to speak, in situ. A common history to obtain at the outset of an attack of influenza is that the patient has recently had an ordinary cold for some time without feeling ill, but when the catarrh ceased constitutional symptoms with malaise and pyrexia first appeared. A remedy for colds much in use at one time was the "carbolic smoke-ball." Its virtue, no doubt, consisted, not in the antiseptic power of the carbolic acid, but in the fact that it produced an aseptic irritation of the nasal mucosa and caused an excess of mucus to be formed which dealt with the invading infection there and then.

With the same object in view, some medical officers have tried to educate their pupils to breathe habitually and entirely through their noses by teaching them a kind of "nasal drill." This expedient is difficult to carry out effectively and has not met with signal success: it has psychical rather than physical results.

Again, it has been suggested that all pupils should have their throats and nasal passages disinfected periodically by passing through a chamber in which a saturated spray of some vaporised disinfectant is circulated. I think this measure also is open to the criticism that the effect is too temporary and superficial to be efficacious.

PRINCIPLES OF PROPHYLAXIS.

The prophylaxis of these diseases then resolves itself into the following rules: 1. Keep out of infection's way. 2. Raise the immunity of the body. Let us deal with these separately.

1. *Avoidance of Infection.*—How can school-children keep out of infection's way? This is a large and far-reaching question. The infection is usually brought into schools at the beginning of a term by boys or girls who have left home with a cold or cough which seemed too trivial to detain them, or who during the last week of the holidays have gone through a concentrated tour of amusements at kinemas, theatres, dances, &c., and return to school somewhat tired and out of sorts, with the diseases under question incubating in their systems.

The way to tackle this source of infection is to "educate" the parents, or rather take them into our confidence, and point out the folly of indulgence of this kind. I have found it of no avail to send out a printed form, such as: "You are requested not to send your boy back to school with a heavy cold." To be of any use, a special communication must be sent periodically, written in reasonable terms, with explanations, and an appeal for coöperation on the part of the parents. Moreover, in schools situated in or near a town there is a constant risk of the infection being introduced by day-boys or boarders who must needs enter shops, hotels, and other town buildings to replenish their wardrobes, meet their parents, or go to theatrical or musical entertainments. This is to a certain extent avoided by stringent rules as to bounds and hours, and by providing the school with a food-shop of its own; but, inasmuch as the strength of a chain is that of its weakest link, all such efforts at surveillance and restrictions must almost inevitably break down, as it is enough that one pupil introduce the infection for the whole school to be exposed to its attack.

But if we ask for preliminary care on the part of parents we, too, must leave no stone unturned to avoid infection when the pupils assemble at the beginning of each term. Precautions should be taken by school authorities to ensure that all school premises are in as suitable condition as possible for pupils who have come from comfortable home-quarters to the severer rigour of the school establishments. In addition to the thorough routine cleaning and ventilation of school premises, all class-rooms and other meeting places should be warmed by the lighting of fires a few days before the pupils return, and the school routine should be entered upon gradually, not plunging at once into early hours, but gradually training the pupils to adapt themselves to their change of environment. No doubt, colds and febrile catarrhs spread much more quickly amongst boys and girls when living in their school community because they are packed into close quarters both by day and night.

It is, in my experience, chiefly in the big dormitory and small study where two or more boys live and work together that infection most easily spreads. Stated in other terms this means that they are overcrowded, and no doubt in a sense they are so, but it would be neither possible nor desirable to house boys at school as young men live at the universities—i.e., each with his own sitting-room and bedroom quite apart from that of his neighbours. Such an arrangement would materially alter the value of our boarding-schools in which close contact and publicity of life are important social and moral factors. I am quite sure that, even in dormitories where ample space (according to the accepted doctrines) is allowed, infection is carried directly from boy to boy.

There are only two remedies for these difficulties:—

(*a*) To rebuild or rearrange existing accommodation so that there are far fewer boys in each dormitory, after the plan adopted in some fever hospitals, where separate infections are nursed in the same ward without obvious ill-effects. But so long as boys are boys the theory would utterly break down in practice. There is all the difference in the world between sick patients in bed in a ward under supervision and healthy children in a dormitory with little or modified restraint. But this does not mean that we should not be strict as to the spacing of beds and ventilation in dormitories. On the contrary, the minimum space provided should at least be in accordance with the usually accepted rules, and great care should be taken that the ventilation is as good as possible.

(*b*) To make the best use of what space is available in studies and dormitories. Here, I think, a great deal could be done if more attention were paid to tidiness both of place and person. In my opinion, pupils should be paraded every morning to see that they begin the day, at any rate, tidy in appearance and apparel, and their quarters should likewise be inspected daily by a specially selected master or

officer to see that they are kept clean and well ventilated. This is especially necessary where boys live and sleep in the same room, and every attempt should be made to keep such rooms free from unnecessary furniture, draperies, and other dust-collecting materials. The condition of class-rooms and other meeting places likewise requires special attention to see that they are kept clean, warm, well ventilated, and adequately lighted.

In the holidays following an epidemic, special care should be taken to begin cleaning and decorating operations *early*. I do not think that the burning of sulphur or formalin, as usually employed, has any germicidal action whatsoever, and I regard it as an unnecessary performance in which far too much trust is placed by the public and ourselves.

My impression is that girls' schools suffer less from influenzoid epidemics than boys' schools of the same grade. If this is so, I have little doubt that it is due to the greater care spent upon tidiness and general supervision of living quarters rather than to their being less closely packed. I feel sure that 100 tidy pupils will occupy the same space as 80 untidy pupils without a corresponding increase in the incidence of febrile complaints. There are many other small but important considerations which I must pass over, such as the kind and amount of food, the laundry arrangements, the hours of sleep, &c., which bear indirectly on our subject.

But there is one small detail to which insufficient attention is usually given in schools, and that is the provision of adequate foot-gear. I cannot explain why cold and damp feet should predispose to catarrhal conditions any more than coldness and dampness of any other part of the body, except that it is more often overlooked. One of the inconveniences of adolescence is a tendency to poor circulation in the extremities, and this can to a certain extent be overcome by seeing that pupils are well shod and that their boots and shoes are kept in good repair.

2. *Raising the Immunity.*—There are some individuals who seem to have a high natural immunity to infections of all kinds; some children, even before puberty, will pass through epidemics of different kinds unscathed, and it is possible that, with puberty, most people acquire a still greater degree of natural immunity. A second class, possessing less natural immunity, suffer from occasional attacks of influenza, but acquire after each attack an immunity which lasts them for a considerable length of time. There remain, however, a large number of persons of school age who acquire only a very short-lived immunity after an attack of influenza, and succumb whenever the so-called "wave" passes over their neighbourhood.

In a school of 600 boys I have known 200 to be on the sick list at one time, and a total of over 300 cases in a term, which implies the loss of about 4000 school days in a term of 12 weeks.

PROPHYLACTIC VACCINATION.

It seems to me that the longer the epidemic lasts the greater is the virulence of the infection and the more serious the nature of the complications. Consequently, it behoves us as medical officers to leave no stone unturned, at whatever cost or trouble, to stamp out or mitigate the disease and its sequelæ, and I would like to direct attention to the question of raising the immunity of the community by prophylactic vaccination.

There has so far been no combined attempt on the part of medical officers of schools to tackle a given epidemic systematically by methods and on lines on which they have previously arrived at agreement. At present the question is in a state of chaos, and I do not think that we could arrive at any certain conclusions if we had before us to-day all such evidence as can be collected, because of its fragmentary and uncoördinated nature.

There is on the one hand: 1. The evidence of individual patients who think they have or have not benefited by a "course" of prophylactic vaccines, and who swear by or belittle this form of vaccination according to the result they imagine it has produced in themselves. 2. There is the evidence of medical men who have dealt with communities such as a detachment of troops, schools, and other societies, whose evidence, if we were able to collect it, would in some cases be enthusiastic, in others lukewarm, but in no case convincing, because the methods have not been carried out on a large enough scale and with sufficient control material.

What is wanted is a combined test-effort on the part of medical officers of schools to tackle the problem thoroughly by agreeing as to the method of preparation and details of administering a vaccine at a time chosen by the doctors calculated to immunise pupils against a likely, or one may say, almost certain outbreak of influenzoid epidemic at a given season—e.g., the coming Lent term.

It may be argued that as the organism responsible for influenza is not certainly identified, this form of prophylactic vaccination is unscientific, but we do certainly know that certain accessory organisms play a not unimportant part both in the disease as we know it and in its complications. Indeed, there may possibly be no one particular responsible germ, but the disease may be due to the combined activity of several organisms, some of which we know—for instance, the virulent form of streptococcus so frequently isolated from otorrhœa following influenza. If, then, we can raise the immunity of the body against one or more such organisms we are immunising in part or in whole against the complex disease.

Stock Vaccine.—There has lately appeared in print a report of an experiment tried in September, 1919, in a boarding-house of a large public school, where each child received five injections in the course of the year of the anticatarrh vaccine made in the inoculation department of St. Mary's Hospital. The report says: "The results were so encouraging that the procedure has been continued regularly, and the record for the past four years shows that not one girl who had been duly inoculated missed a single day at school owing to colds or influenza, whereas of those girls who were not inoculated a considerable number were confined to bed with colds and influenza, and two contracted pneumonia." In this house the number of girls averaged 40, and they mixed freely with other uninoculated pupils in their class-rooms.

The vaccine here used is composed of *Micrococcus catarrhalis*, *Bacillus pneumoniæ*, pneumococcus, *Bacillus septus*, *Bacillus influenzæ*, and streptococcus in certain definite proportions, and is, no doubt, constantly reinforced at headquarters by fresh cultures taken from well-marked cases of the disease. The recorded results are excellent, but I would suggest that it would be still better if those schools which determined to join in one big concerted experiment should send to a prearranged laboratory or pathologist cultures from the naso-pharynx and throat and specimens of sputum by a given date, in order to have a vaccine of local origin made for them, leaving it to the discretion of the pathologist to incorporate such and as many strains as his experience led him to think necessary.

Such a vaccine would combine the advantages of being easily procurable and of being made from local material. This concerted experiment would have two sources of control: 1. Those schools which, for some reason, did not adopt the plan. 2. Those individuals in any school whose parents preferred not to have their children inoculated. The best time for administering the vaccine would be during the Christmas holidays immediately preceding the Lent term, and again during the last three weeks of the summer holidays so as to precede the two school winter terms in which influenza is usually most prevalent.

I feel that we have before us a great opportunity for testing the efficacy of vaccine prophylactic treatment in the case of a disease which has become a national danger and expense, and that the time has come to give it a careful trial. I often feel and say that the value of my work as medical officer of a big

public school can only be judged when the boys whom I have steered through adolescence reach the fourth and fifth decade of their life. The proof of this pudding is not in the eating but in the digesting. The success of education at our schools cannot be judged by lists of scholastic distinctions so much as by the mentality and usefulness of their pupils when they attain middle age. The same, I take it, is true in medical matters, and we medical officers of schools hold in our hands the invisible keys which could open many secrets of the future health of our patients.

SENSIBILITY OF THE HEART: A HUMAN EXPERIMENT.

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With Notes by

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THE opportunity for a comparatively prolonged manipulation of the human heart in a fully conscious patient has occurred probably with sufficient infrequency to justify placing on record this case. As nearly five years have now elapsed since the date of the operation it is possible to add that the health of the patient is excellent and fully warranted the risk that was taken in exposing him to an experimental procedure. At the time of the operation his condition was one of extreme gravity and apparently hopeless. For obvious reasons, that will be explained later, a general anæsthetic could not be administered. The use of an appropriately planned regional analgesia for making a flap from the wall of the thorax was not an entire innovation, but there was no precedent to guide us as to the sensitiveness of the visceral pericardium and heart to such stimuli that the tearing down of adhesions, squeezing, and ordinary tactile pressure might evoke. Operations upon the heart had been done long previously to the discovery of general anæsthetics, and an excellent résumé of the history of cardiac surgery from early days is given by Ballance in his book "The Surgery of the Heart." But, as a rule, these operations were for severe wounds from which the patients were barely conscious and were hurried procedures that were necessitated by such emergencies. Dobson,[1] in April, 1924, successfully sutured a wound in the heart under "local anæsthesia." Another type of operation was for suppuration within the pericardium when simple incisions were made to establish drainage. In this particular case an exploratory pericardiotomy was carried out with a purely regional and local analgesia in the hope of discovering a lesion that could be benefited by surgical treatment upon a patient who was so normally conscious that he has forgotten none of the details of his experiences throughout the operation at the present day. The lesion found was a fibroplastic pericarditis binding tightly the whole of the heart muscle to the parietal pericardium with small lacunar spaces containing serous fluid intervening at intervals. The length of time taken to free the whole of the heart from its attachment to the pericardium was from 10 to 12 minutes, and the whole operation occupied about 35 minutes. At no stage of the operation did any stimulus that was applied produce any sensation that the patient was able to record in consciousness, and throughout most of the proceedings he chatted with his nurse. Neither is this the sequence of amnesia, as he can relate fully all the ordinary details of the operation that he observed at the present day.

[1] Dobson: Brit. Med. Jour., 1924.

Lennander (Upsala) and A. E. Barker (London) showed 25 years ago by operations upon the conscious human subject with local infiltration of the abdominal wall only that the alimentary tract deriving its nerve-supply from the vagus and sympathetic nervous systems was totally insensitive to all forms of stimuli except traction. The visceral layer of the pericardium and the heart in the human being deriving their nerve-supply from the same sources are shown by this operation to possess the same immunity to the stimuli applied in this case. It was further noted during the whole time when the heart was being manipulated that its beat was entirely unaffected in any way that could be recognised by the hand of the surgeon, an observation naturally of great relief to the operator. There was no subsequent reaction when the operation had been completed; actually the patient had 12 hours natural sleep immediately afterwards and the pulse-rate fell within the same period from 148 to 130 beats per minute. Such knowledge may extend conceivably the sphere of utility of cardiac surgery.

The pathological condition that was revealed at the operation fully explained the absence of any pathognomonic clinical signs for detecting its presence, as well as a reason for the cardiac shadow, examined beforehand on two occasions by X rays, showing little or no variation from the normal. The parietal pericardium, which was fully a quarter of an inch thick, clamped the heart like the case of an oncometer, and thus rendered the occurrence of enlargement or displacement impossible. This condition has been found not infrequently in the post-mortem room in cases of acute pulmonary disease as a lesion, the presence of which had not been detected beforehand. It is possible that the lives of some of those patients might have been saved by the procedure adopted in this case, which enabled a systematic and painless investigation of the pericardial contents to be carried out without the added risk of a general anæsthetic to a patient already desperately ill.

The purely medical aspects and clinical difficulties of this case were under the supervision of Sir William Willcox. I must express my thanks to him, to Dr. E. F. Furber, and to Dr. G. P. Selby (the father of the patient) for their unwearying skill and assistance in helping towards a successful termination; and not least to Dr. F. Rood for an induction of analgesia that by its perfection gave courage and confidence throughout an anxious procedure.

Details of Case.

C. P. S., aged 21 years, an officer in the R.F.C., was sent to me on Dec. 2nd, 1920, suffering from an intractable neuralgia of the median and ulnar nerves and an axial causalgia of the phantom limb of a high amputation of the left arm. He had been shot down when flying behind the German lines, and in addition to many injuries a virulent spreading sepsis of a compound fracture in the region of the left elbow-joint ultimately necessitated amputation. Ten days later a violent secondary hæmorrhage had been arrested by an urgent application of a mass ligature to the bleeding-point as he was lying in bed almost dead. (It is pleasing to put on record that he received every possible attention at the hands of the German medical service, and when the surgeon in charge of the hospital learned that the patient's father was a medical man he took the trouble to write a full technical account of the progress of the case on the back of each letter that the patient was permitted to write home.) The symptoms suggested that the median and ulnar nerves had been included in this ligature as well as the blood-vessels. But the causalgia was by far the more formidable sequela, and during its agonising spasms clonic convulsions of the shoulder girdle muscles occurred as well as pink macular areas of vaso-dilatation over the same region.

At the first operation on Dec. 15th, 1920, the median and ulnar nerves and the brachial vessels were found to end in a cone-shaped termination distal to which the nerves expanded into large

fibro-neuromatous masses. These were resected and the ends of the nerves infolded. The sheaths of the vessels were then cleaned high up as far as the second part of the axillary artery (Leriche's operation). The region traversed in order to identify all these structures was a dense oozing fibrous mass, and the patient was exposed to the influence of open ether for nearly two hours. His temperature rose within 24 hours of the operation to 104° F., and a few days later Sir William Willcox and Dr. Furber diagnosed an extensive pneumonia of the right lung. By Dec. 23rd, 1920, a large pleural effusion had developed and two pints of a blood-stained serous fluid were drawn off by aspiration. Cultures from the fluid produced a pure growth of a hæmolytic streptococcus. A few days later an intercostal incision was made under local analgesia and Carrel-Dakin tubes inserted into what was by then an empyema cavity.

On Jan. 2nd, 1921, patient complained of præcordial pain, and after examination Sir William Willcox diagnosed the presence of acute pericarditis. By Jan. 5th the pain had disappeared, but the patient remained acutely ill with a temperature of 103·4° F. and pulse-rate 132. On the 9th a rib was resected on the right side, again under local analgesia, as the drainage through the intercostal incision was not proving satisfactory. An abundant purulent discharge ensued from the empyema, which was still being treated by the Carrel-Dakin method, and an improvement in the general condition of the patient was maintained until Jan. 15th. From this date, however, in spite of a marked improvement in the condition of the empyema, the general condition of the patient became steadily worse. The temperature seldom fell below 102°, and the pulse-rate climbed up from an average 120–130 to an average 130–144. On Jan. 23rd the pulse-rate reached 148; the condition of the patient was then very grave, and after a consultation with Sir William Willcox, Dr. J. F. Poynton, Dr. Furber, and the patient's father a decision was arrived at to explore the pericardial cavity by operation, since the condition of the empyema was not sufficient to explain the critical condition of the patient.

Operation (6 P.M., Jan. 23rd, 1921).—After a preliminary injection of novocaine by Dr. F. Rood (for details of the procedure see note by Dr. Rood), a U-shaped incision was made over the left side of the chest so as to expose the sternal ends of the third, fourth, and fifth costal cartilages. These were cut through obliquely close to the sternum and a chrondroplastic flap was then turned outwards using the costochondral articulations as hinges. The edges of the pleural sacs were easily identified and painlessly brushed aside with gauze. The pericardial sac was then steadied by transfixion with a sharp hook and an incision ¾ inch long was made cautiously through its thickened substance. At a depth of rather more than ¼ inch a small cavity was opened, from which about 2 drachms of turbid fluid escaped. The floor of the cavity was formed by the heart muscle and its other boundaries by recent fibrous adhesions. These were broken down carefully by the finger all round and similar small cavities opened beyond them. As the pathological condition within the pericardial sac was now obvious, the original incision in the parietal pericardium was extended upwards and downwards for about 5 inches to give access to the whole of the heart. By means of blunt instruments and fingers introduced into the sac the whole of the heart muscle was freed eventually from its attachment to the pericardium. The most difficult part was the upper portion of the posterior surface, which could be reached only after the apex, anterior surface, and lateral borders of the heart had been liberated. To effect the final step, the heart was grasped between the thumb in front and the middle and index-fingers behind. With the hand thus steadied the fingers behind were forced slowly up to the apex of the pericardial sac and with sweeping movements completed the destruction of the last of the adhesions. At no time did any detectable change in rate or quality of the heart-beat occur suggestive of resentment of these manœuvres, and the patient, as before, continued to remain quite unaware of any unpleasant proceeding. The condition of the patient was so excellent and his repeated reassurances that he felt nothing enabled the rest of the operation, involving the replacement of the chondro-plastic flap, to be conducted in a routine and orderly manner. A small piece of the fifth chondral cartilage was removed (he heard the noise made by cutting through this) to enable a drainage-tube to be placed in the pericardial sac, and the remaining cartilages were stitched back to their sternal attachments by chromic catgut. At one stage of the operation the patient said that he thought that something warm was trickling over his chest, but otherwise he experienced no sensations that gave him any knowledge of anything being done to him. He chatted frequently with the nurse standing by him, and has a clear recollection at the present day of the whole incident.

After-course.—Cultures from the pericardial fluid proved to be sterile, but a free discharge of it occurred for several days and the tube was only finally removed a fortnight after the operation. His general condition improved immediately and progressively after the operation, but a tedious convalescence was interrupted by a pulmonary infarct on Feb. 3rd, and by a premature closing of the empyema wound on Feb. 28th, which necessitated a temporary reopening. He became finally non-febrile on March 1st, and from that time onwards his pulse-rate only rose at intervals to 96. On May 7th, 1921, he was able to travel a distance of 40 miles by motor car to the country, with a pulse-rate that varied from 72 to 80. During the ensuing years he has led an active athletic life—e.g., running with harriers, swimming, sailing his own boat, playing tennis, and punting a heavily laden punt a distance of six miles or more without fatigue. Incidentally, in the midst of all these infections, the operation wound on his stump healed by first intention and he has remained free from both neuralgia and causalgia.

Note by Dr. F. ROOD.

About 5 oz. of a 2 per cent. solution of novocaine were used to produce analgesia in this case—20 ♏ of adrenalin were added to the novocaine solution in order to localise it to the site of injection and thus to prolong its action. As the operation involved exploration of the pericardium, it was, of course, necessary to produce an analgesia of the whole thickness of the chest wall and over a sufficiently wide area to allow not only for the line of incision, but also for retraction and other manipulations associated with the operation.

Thus it was necessary to render insensitive first the skin and subcutaneous tissues, then the deeper layer—the ribs, costal cartilages, and parietal pleura; finally, the *parietal* pericardium. It was naturally not possible to inject the nerves supplying the *visceral* pericardium and the heart, so that the manipulation of these tissues was the only part of the operation which could not be definitely provided for in the analgesia. This part of the operation was somewhat experimental, as we did not know previously to what extent the conscious patient would tolerate operative procedure in the interior of the pericardium.

As the skin and subcutaneous tissues over the præcordium are supplied in the upper part by the third and fourth descending branches of the cervical plexus as well as by the terminal branches of the intercostal nerves and also by the lateral cutaneous branches of these same nerves, a wide infiltration with a very fine hypodermic needle was carried out over an area of the chest wall extending from the junction of the manubrium and body of the sternum above to the ensiform cartilage below, and reaching laterally for about 3 inches on either side of the sternum. Then injecting through this insensitive area with a longer and stouter needle, the novocaine solution was introduced beneath each separate rib and costal cartilage. As this second layer of injection blocked the trunks of the intercostal nerves it produced a complete anæsthesia at the ribs and costal cartilages,

the intercostal muscles, the parietal pleura, and the parietal pericardium.

This tedious infiltration method was employed rather than a pure regional anæsthesia of each intercostal nerve beneath the ribs, as the latter would have involved a series of painful punctures which, in view of the patient's condition, was not considered advisable. The patient stood the operation very well. There was no alteration in his general condition at any time and he did not resent in the least gentle intrapericardial exploration.

Note by Sir WILLIAM WILLCOX.

The usual signs of an extensive pneumonia of the lower lobe of the right lung were present on Dec. 17th, 1920, the temperature ranged from 105° to 103° F., and rusty sputum of the usual pneumonia character was freely expectorated. On Dec. 23rd, 1920, 11 A.M., the temperature still remained high, and after careful examination and consultation with Dr. E. P. Furber, whose care and attendance on the case were constant and unremitting, it became evident that fluid was present in the right pleural cavity. 10 c.cm. of slightly turbid fluid were withdrawn with an aspirating needle, and on examination by Dr. John Matthews streptococci of hæmolytic type was found to be present. On Dec. 23rd two pints of blood-stained serous fluid were aspirated by Mr. Waugh, and treatment of the right pleural cavity by Carrel-Dakin tubes was instituted. On Dec. 28th, 1920, pain occurred over the præcordial region and definite pericardial friction was detected. The temperature remained high and a well-marked pericardial rub continued audible over the præcordial region. There were still well-marked signs of fluid in the right pleural cavity, the discharge from which was of a thick purulent nature, but the præcordial pain disappeared on Jan. 5th.

On Jan. 9th, 1921, a portion of rib was resected by Mr. Waugh and a large drainage-tube inserted into the right pleural cavity. In spite of the adequate drainage of the empyema cavity the temperature remained high and a rapid pulse-rate and dyspnœa persisted with the condition of the patient growing steadily worse. It appeared clear, on clinical grounds, that the urgent symptoms could not be explained by the condition of the right pleural cavity, there being no physical signs of any collection of pus.

On Jan. 22nd, 1921, a careful X ray examination of the chest showed the right pleural cavity to be well drained and some slight increase in the cardiac shadow. The condition of the patient was so extremely grave, and it was obvious that unless surgical measures were invoked for the treatment of the pericardial condition a fatal termination would certainly follow speedily.

When on the morning of Jan. 23rd, 1921, the condition showed no improvement a final consultation was held, and Dr. F. J. Poynton very kindly saw the patient with us and reviewed the whole situation. It was unanimously agreed that operation on the pericardium for relief of the acute fibrino-plastic pericarditis held out the only possible hope of recovery. The operation was performed on that day and its details have been most accurately described by Mr. Waugh. It was my privilege to be present and observe the whole procedure. Before the operation the pulse-rate was 148, the temperature 104°, and the condition of the patient could only be described as desperate. The skill with which the local anæsthesia was carried out by Dr. Rood completely obviated the slightest pain or shock from the operation. The operation was performed with the utmost skill and rapidity, the heart being exposed and freed from its strangulating fibrino-plastic adhesions, turbid fluid escaping from the pericardial cavity, which was freely drained.

A most interesting feature of the case was that while the right pleural cavity was heavily infected with hæmolytic streptococci, and had obviously given rise to the pericarditis, yet the turbid pericardial fluid was completely sterile. This is a perfect illustration of the manner in which a septic focus caused by a definite bacterial infection may give rise to a very marked inflammatory reaction in another part of the body, the latter showing a complete absence of living bacteria.

In this case it appears probable that streptococci had been conveyed to the pericardium from the right-sided empyema, and that they had been completely destroyed by the bactericidal action of the pericardial fluid, their products, however, giving rise to the active inflammation—i.e., fibrino-plastic pericarditis. The occurrence of arthritis and very many other pathological inflammatory lesions of a sterile nature resulting from a distant focus of active bacterial infection can be accounted for on similar grounds.

The operative procedure employed in this case appears to open up a new field for the treatment of pericardial disease. The exposure of the præcordium and the opening of the pericardium are attended with little or no shock under the technique employed, and the freeing of the heart from pericardial adhesions, if newly formed, as in this case, is within the realms of practical surgery.

OBSERVATIONS UPON THE INFLUENCE OF A GLYCERINE EMULSION OF TESTES AND ADRENALS

ON TUBERCULOUS AND SENILE PATIENTS.

BY V. KORENCHEVSKY, M.D.

(*From the Lister Institute of Preventive Medicine.*)

Historical.

1. *Adrenals.*—Several authors have a strong opinion that the functional capacity of the adrenals is important in infectious diseases, increasing or decreasing the resistance of the organism to disease (Poncet and R. Lerische (1912), M. Lucien and Parisot (1913), Biedl (1916), Cramer (1919), Lewis (1921–23), Scott (1924), and others). The action of bacterial toxins upon the adrenals seems to vary according to the degree of their toxicity and the period of time during which the animal organism is subjected to their influence. Tscheboksaroff (1911) found that during the first 10–15 hours after the injection of diphtheria toxin the amount of adrenalin in the blood is increased and in 24–27 hours following the end of this period is again normal; 2–4 days after the injection the secretion of adrenalin has decreased or ceased. Experimental data, corroborated by anatomical investigations of the adrenals of patients who died of infectious diseases, showed morphological changes in these glands varying from hyperæmia and hypertrophy to degeneration and atrophy, according to the time and strength of action of the toxins (Langois and Charrin (1896), Bogomoletz (1905), Goldzieher (1910), Lucksh (1910), Sorgo and Haletin (1916), Cramer (1919) and others). The suprarenals were investigated and found to be affected in tuberculosis (Bernard and Bigart (1906), Sezary (1908), Boinet (1909), Poncet and Leriche (1912), Parisot and Lucien (1913), Alou (1922), Wiesner (1923) and others). According to these investigations the suprarenals react by hypertrophy in cases of feeble or slowly developing infection, and by sclerosis and atrophy in cases of severe tuberculosis. In many cases tubercle bacilli could not be detected in the affected adrenals, therefore these changes can only be explained by the influence of the poisons of the bacilli. True nodular tuberculosis of the suprarenals has also been described on several occasions. According to Poncet and Leriche, Lucien and Parisot, and others, the clinical symptoms which may be ascribed to suprarenal disturbances in tuberculosis (apart from true Addison's disease) are the following: vasomotor disturbances, low blood pressure, palpitation of the heart, inclination to collapse, pigmentation of the skin, easy and pronounced sun-burning, muscular weakness,

and general asthenia, increased sensibility to cold, and psychic depression.

The above facts show that the changes in the adrenals indicate their deficiency in severe or chronic infectious diseases and intoxications. Their hypertrophy and increased secretion in cases of feeble or temporary infection or intoxication suggest their antitoxic function. This is shown more clearly by the experiments of Lewis (1921–22) and Scott (1924). Rats are among those animals which survive the removal of both adrenals. Lewis has found that double adrenalectomy increases the sensitiveness of rats to codeine, papaverin curare, cobra venom, veratrin, digitoxin, adrenalin diphtheria toxin, and especial morphine. For instance, the minimal fatal dose of morphine for operated animals was 400–500 times less than that for the controls. This decreased resistance in rats appeared immediately after the operation, but after some time it diminishes gradually and completely disappears. A mixture in vitro, or a previous injection of a watery extract of suprarenals, has not given protection against poisoning. Scott (1924) found that the resistance of rats to intoxication by dead streptococci or staphylococci was greatly decreased after double adrenalectomy. For instance, a dose could be obtained that was invariably fatal to adrenalectomised rats (before hypertrophy of the accessory glands), but never killed control rats. Scott thinks that this decreased resistance is dependent upon a functional insufficiency of the adrenal cortex. Oppenheim (1901) and Stewart and Rogoff (1922) could not obtain the same results in cats and guinea-pigs. Webb, Gilbert, Hartwell, and Ryder (1920) could not find in the changes produced after inoculation with tubercle bacilli a definite difference between adrenalectomised and control guinea-pigs, the only difference noted being a slightly earlier enlargement of inguinal glands in the operated animals. Attempts were made to utilise this antitoxic influence of the adrenals in the treatment of tuberculosis. Renon (1912), Sergent, Lereboullet, Lucien and Parisot (1913) draw attention to the satisfactory results obtained in tuberculosis by adrenal opotherapy.

2. *Sexual Glands.*—There is no doubt that the sexual glands have an internally secreting function. After removal of the sexual glands in both men and animals a change is noticed in the external appearance and the psychology, and in the striking involution of the sexual organs and of many secondary features of sex (provided castration is performed at an early age). These facts alone are sufficient to place the testes and ovaries in the group of endocrine glands. Steinach's experiments (1912) on the cross-grafting of ovaries and testes in animals of the opposite sex, also his experiments (1920) with the ligature of the vas, and the experiments of Voronoff (1923, 1924) and Thorek (1924) with testicular grafts supply evidence of the fact that the sexual glands produce an internal secretion. Steinach's experiments on rats, Sand's (1921) on dogs, and Voronoff's on goats and rams suggest that a ligature of the vas or a transplantation of the testes from a young animal may increase for a limited time some general and sexual force in old animals.

Brown-Séquard (1889) was the first to perform (on himself) dynamometer measurements of muscular strength after testicular injections. These raised his strength from 34 to 41 kg.—i.e., Brown-Séquard at the age of 72 years had regained the force which he had at the age of 26. Copriati (1892) confirmed the above results, using Mosso's ergograph. Very elaborate and exact observations by Zoth (1896) and Pregl (1896) showed that subcutaneous injections of a testicular extract combined with muscular exercise increase the muscular strength by about 50 per cent. as measured by the ergograph. Loewy (1910) found that after injections of spermin the increased oxygen consumption, which is a sign of muscular fatigue, decreases in a marked way. From all these experiments it may be concluded that the sexual glands have a stimulating influence upon the general strength of the animal, and especially upon the sexual organs and their function. On the basis of these experiments several authors (K. Sand (1922), Benjamin (1922), Schmidt (1922), K. Walker and J. Lumsden Cook (1924) and others) in recent years have employed Steinach's operation on human subjects. Many senile patients were among those treated. The conclusion which may be drawn from all these observations is stated by Walker and Lumsden Cook as follows:—

> "At the present there is insufficient material on which to base a decision as to the value of vasoligature as a means of treatment in man. The results of operation appear to have been capricious, although numerous cases are reported in which benefits accrued."

The observations of Voronoff (1920), Stanley (1922), Thorek (1924), Nixon (1924), and Walker (1924) have shown some beneficial effects after the transplantation of the testes of animals or men into patients suffering from senility or other diseases with signs of eunuchoidism. Usually this improvement, when in senile patients, was shown by an increase in appetite and in mental and muscular strength and the disappearance of constipation.

The rôle of the sexual glands in infectious diseases and in intoxications has been very little investigated. Vincenzo and Marcozzi (quoted by Poncet and Leriche), working on animals, obtained a sclerosis of the testicles in experimental tuberculosis and in poisoning with tuberculin. Ancel and Bouin (1905), on the basis of their experiments, conclude that hypertrophy of the interstitial gland of the testicle is seen in the first stages of infection and of intoxication (tuberculosis toxin included). In cases of very acute or chronic and severe infections (tuberculosis) or intoxications, the interstitial testicular glands tend to atrophy. Davis (1922) found the testicles degenerated in various infectious diseases in man. Hansemann (1895) noticed a marked increase in the number of interstitial cells in many cachectic conditions, and quite regularly in chronic tuberculosis, cancer, and syphilis. Poncet and Leriche draw attention to the degeneration of the sexual glands in human tuberculosis. They think that tuberculosis results in a slow castration produced by the tuberculosis toxin. Poncet and Leriche, Hollos (1914), Pierry (1910), Costa (1905) and others have often seen symptoms in tuberculosis denoting disturbances in the internal secretion of the reproductive glands. Sexual maturity either develops too early or there is a state of infantilism with a hypoplasia of the reproductive organs. The specific habitus (long thin limbs with undeveloped muscles) of a consumptive is, according to Poncet and Leriche, due to disturbances in the function of the interstitial glands. Disturbances in menstruation are also a frequent symptom of tuberculosis.

Cristofaletti and Thaler (quoted by Warnekros) tried to discover the rôle of the sexual glands in the resistance of the animal to tuberculosis by experiments with castration. But they did not find any marked difference in the time the castrated and normal guinea-pigs survived when infected with tuberculosis. Neither did the post-mortem examination give sufficient evidence that castration had any influence upon the development of tuberculosis. Warnekros, however, objects strongly to these experiments because they are performed on unsuitable animals, guinea-pigs being too highly sensitive to tuberculosis and surviving too short a time. At present, opinion is not agreed upon the effect of total hysterectomy with castration on tuberculosis in pregnancy. The aim of this operation is to lower the metabolism and produce fattening.

Henkal (quoted by Warnekros) noticed the beneficial effect of castration (total hysterectomy) in eight pregnant women suffering from tuberculosis. Warnekros (1912) also published his own observations on the effect of total hysterectomy on tuberculosis in pregnancy. Out of 34 cases 7 died during the first and beginning of the second year after the operation. Improvements were noticed in all the other patients; they felt stronger, increased in weight (sometimes only temporarily), and the local symptoms in the lungs disappeared or greatly diminished. Warnekros found an improvement in all the symptoms, diagnosed by

auscultation, percussion, and X ray. However, the results of the operations by Henkal and Warnekros might be better explained by the interruption of pregnancy, because it is very improbable that normal secretion of the stimulating gland is of any use and even harmful in an infection. Moreover, a histological examination of the sexual glands in chronic tuberculosis reveals frequent degenerative and atrophic processes in them; hypertrophy of the interstitial gland was found only in the early stages of tuberculosis or in mild forms of the disease. Therefore, it is possible to consider the more frequent lowered activity of the sexual glands in tuberculosis, which, Poncet and Leriche say, finally "castrates" the patient by means of tubercle toxins. In spite of this "toxic castration" consumption is not cured or even ameliorated. In the time of Brown-Séquard an attempt was made to treat consumptive patients with "testicular liquid," and some satisfactory results were obtained. The general well-being and strength as well as the local symptoms of the patients showed varying degrees of improvement (Victorov (1891), Maximovich (1891), Henocque (1892), Ouspensky (1896)).

Technique Employed in Present Investigation.

When all the above-mentioned facts were considered it seemed promising to administer preparations of sexual glands + adrenals to tuberculous patients with symptoms of deficiency of internal secretion of sexual or adrenal glands to enable them to overcome this disease. It is obvious that all the operative methods used to provide the patient with the necessary internal secretions of the sexual glands have many limitations. Therefore, it is most desirable to discover a suitable and effective preparation for oral or subcutaneous administration. Since the first observations of Brown-Séquard (1889) on himself, many kinds of testicular and ovarian preparations have been used for the treatment of patients. For general practice, firms of to-day offer a variety of such preparations for oral as well as for subcutaneous administration.

But the results obtained with these are contradictory, and differ much from those described by Brown-Séquard (see Biedl). For subcutaneous injection, the founder of organotherapy used freshly prepared extracts of testes in water and glycerine solutions. These extracts contain an excess of destroyed cell products which produce an unfavourable local and generalised reaction in the patient. Therefore, commercial firms stopped preparing them and replaced them by harmless, but at the same time much less active or sometimes even inactive preparations. Most of them are prepared either by desiccation of the gland tissue (for oral administration), or by precipitation of the proteins and sterilisation of a watery extract of the gland (for subcutaneous injection). Although some improvements in patients after using these preparations are described (Biedl), it is impossible to avoid the objection that the procedure necessary for desiccation, precipitation of proteins, and sterilisation of glandular preparations may destroy or weaken the active principles of the sexual glands. I therefore decided to try a glycerine emulsion for oral administration prepared from perfectly fresh glands. A possible objection to this is that the active principle of glands could be destroyed by the autolysis, which could take place in a glycerine solution. This I tried to avoid by preparing the emulsions very often and by keeping them cold. The method of preparation was as follows.

Testes and adrenals from cattle were used. The glands were brought straight to the laboratory immediately after the animal was killed. They were ground in a "Latapie broyeur" (large model) and emulsified in glycerine in the proportion of 1 part of gland to 2½ parts of glycerine. One part of ground tissue contained 1/8–1/10 adrenals and 7/8–9/10 testes. For therapeutic treatment ¼–2 teaspoonfuls were given once or twice daily according to the reaction of the patient.

I have tried this extract on myself for several weeks and have not noticed any harmful effects. In the following text the glycerine emulsion of testes and adrenals will be called "A.T. Emulsion." At first my aim was to administer the A.T. emulsion only to those patients who suffered from tuberculosis with symptoms of deficiency chiefly of sexual glands. But it was difficult to find a sufficient number of suitable cases in hospitals because marked changes in the external appearance can only be seen in those in which deficiency started at an early age. I therefore decided to try the effect of A.T. emulsion also on patients without obvious signs of sexual deficiency.

The above-mentioned treatment of the patients was kindly carried out and the results obtained checked by Dr. M. Paterson, medical superintendent of Colindale Hospital, with the assistance of Dr. M. H. Logg, on 50 patients in Colindale Hospital; by Dr. F. B. Hobbs and Dr. A. I. McLaughlin on 11 patients in the City of London Hospital; by Dr. J. Watt, medical superintendent of the King George V. Sanatorium on three patients; by Dr. M. McDonald on one patient in the Tuberculosis Dispensary of Greenwich; and by Dr. R. C. Wingfield, medical superintendent of the Brompton Hospital Sanatorium at Frimley, on five patients. The treatment of the senile patients was kindly undertaken by Dr. J. A. Lumsden Cook at St. Mary Abbots Hospital.

I was permitted to choose the most suitable patients, to suggest the dosage of the emulsion, and during my visits to the hospitals to follow the results obtained. My sincere thanks are due to my colleagues for their accurate and elaborate observations and for permission to use extracts from their reports for the following short summary.

Observations on Tuberculous Patients.

Colindale Hospital.—50 patients, 17 of whom have some features of deficiency of sexual glands. Out of 12 patients with *medium advanced* disease two were between 18 and 21 years old and ten between 27 and 45. The treatment with emulsion lasted 20–35 days for five patients, 41–60 days for three patients, and 80–112 days for four patients. The dose of A.T. emulsion was 1–2 drachms daily.

The condition of the patients at the end of the treatment was as follows. Improvement in four patients, stationary condition of disease in four patients, and another four patients became worse, three of whom died. In a *definitely advanced* stage of tuberculosis were 19 patients: five were 18–25 years old, ten were 26–40, and four were 41–61. The treatment with the same dose of A.T. emulsion lasted: 20–40 days for six patients, 41–65 days for two patients, and 80–145 days for 11 patients. At the end of the treatment their condition was as follows. Six patients improved, six remained stationary, and seven became worse, three of whom died. In a *very advanced stage* of tuberculosis were 19 patients. Five were between 17 and 25, 11 between 26 and 40, and three between 41 and 44 years old. The treatment (the same dose) lasted: 4–14 days for seven patients, 21–40 days for four patients, 41–60 days for four patients, and 61–110 days for four patients. Their condition at the end of the treatment was as follows. One patient improved, three remained stationary, and 15 became worse, ten of whom died. Seven patients, from whom no conclusions can be drawn, must be excluded, because they were only under treatment for 4–14 days; six of them died during this time.

It is impossible to conclude that there are any constant or definite beneficial effects of A.T. emulsion on tuberculous patients from the observations made in Colindale Hospital. The improvement in nearly all cases could be explained by the sanatorium régime. The improvement found in some cases which could be associated with administration of the extract was of a temporary character. In some patients ingestion of the emulsion produced headaches or sickness.

City of London Hospital.—Eleven patients were treated, detailed records of eight of whom are available. They were between the ages of 17 and 26. Treatment of four patients lasted 17–29 days and of the other four 40–70 days. Four patients were in a medium advanced stage of the disease, three definitely advanced, and one very advanced. At the end of the treatment the condition of disease had improved in four patients, remained stationary in three, and became worse in one, who died.

Of the four who showed improvement one is definitely attributable to the emulsion. Therefore, as this case is typical, I will quote Dr. McLaughlin's original report. "Patient was admitted on Sept. 3rd, 1923, and he had signs of considerable tuberculous disease with cavitation of the upper lobe of the left lung, also his right upper lobe was affected. There was considerable activity, his pulse-rate varying from 104–130, the temperature from 101–97·6°, and

his sputum 1 oz. in 24 hours; tubercle bacilli were found in the sputum; his weight on admission was 7 st. 8 lb. 10 oz. He exhibited the typical signs characteristic of imperfect testicular development, and he shaved once a week. During the first three weeks of his stay his condition had not varied much and he increased 2 lb. in weight. During the next three weeks his temperature remained on a lower level and his pulse-rate continued to be rapid and he lost 1½ lb. in weight. Seven weeks after his admission he was put on the A.T. emulsion and his weight immediately started to increase; in a fortnight he had gained 5 lb., and he experienced a remarkable feeling of well-being, and in two months he gained 6 lb. and was obliged to shave three times a week. His pulse-rate was considerably slower and varied from 85–95. After two months the A.T. emulsion was stopped and although the patient felt well in three weeks he had lost 4 lb. He has now been transferred to a sanatorium under the Essex County Council." No signs of any negative influence of the emulsion were observed in the City of London Hospital.

King George V. Sanatorium and Greenwich Tuberculosis Dispensary.—These patients have some features of eunuchoidism—long thin limbs, small penis and testes, slow hair growth, high voice, and in two decreased sexual desire. The pulmonary tuberculosis was in a medium advanced stage in three cases and extensive in one case. The age of three patients varied between 17 and 22 years and the fourth patient was 40. In one case the treatment lasted 75 days, and in the other three patients for 125–150 days. The dosage of the emulsion was as mentioned above. At the end of the treatment two showed moderate improvement, one temporary improvement, and one, with extensive tuberculosis, remained stationary. In these cases the improvement could not be ascribed to the emulsion treatment only, but to the sanatorium régime as well. But there were definite changes in the sexual features of three patients due to the influence of the A.T. emulsion. The hair of all three patients began to grow more quickly, one patient's high voice broke, the small and soft testes of another became harder, and sexual desire was increased in two patients. No signs of any negative influence of the emulsion were observed.

Brompton Hospital Sanatorium at Frimley.—Five patients were put on A.T. emulsion, but in three cases the treatment was discontinued after a few days. In one patient it seemed to increase the attacks of pain due to intestinal ulceration, in another nervousness was apparently increased, and the third patient complained of indigestion. The two remaining patients, one with extensive, the other with slight tuberculosis, were treated for four weeks. Subjectively the patients expressed the opinion that they felt better and more energetic, but there were no signs of objective changes in the disease. The disease spread rapidly to the other lung in one patient in spite of the fact that he felt better.

Results in Tuberculous Patients.

From the results obtained from all the above-mentioned hospitals the conclusions are: 1. The ingestion of a glycerine emulsion of testes and adrenals did not improve pulmonary tuberculosis in a definite and constant way. 2. In those patients, whose improvement was probably and in one case (quoted above from Dr. McLaughlin's report) was certainly due to the emulsion, the change was only temporary. 3. By this treatment in some cases of eunuchoidism symptoms of a deficiency of the internal secretion of the sexual glands were slightly improved.

Observations on Senile Patients.

Fourteen patients were put on the A.T. emulsion treatment. Their ages varied from 64 to 94. There was also one aged 45 who showed signs of precocious senility. The duration of the treatment was 3–5 months. The emulsion was given once or twice, one half to two teaspoonfuls daily. Six patients died from different accidental diseases or from senility during the period of observation. The patients were thoroughly examined several times before, during, and after treatment by Dr. Lumsden Cook. Psychological and dynamometer muscular tests were performed before and at the end of the treatment on the six treated patients as well as on the 10 controls by Dr. C. M. Davey and Dr. T. Gourland, under the kind direction of Prof. C. E. Spearman. I wish to express my sincere gratitude to my colleagues for their kindness in undertaking this elaborate work and for permission to make extracts from their reports for this communication.

With the kind permission of Dr. Lumsden Cook I followed the results obtained on the above-mentioned patients during the whole time they were under observation.

General observation of the patients treated with A.T. emulsion did not reveal any considerable change in their condition.

Two types of *psychological tests* were used, those testing (1) general intelligence, and (2) memory and memory association. As most of the patients could neither read nor write, the first type consisted of classification tests, analogies, sequence, completion, and Binet's memory-drawing test. The memory tests were pictorial and consisted of a series of pairs of well-known objects. After the patient had been shown the first half of the series he was asked to give the names of any he could remember. He was then shown one picture of the pair and asked to name its companion. The second half of the series was then given in the same way, and finally the patient was asked to name as many objects as he could of the whole series. A second series of different pictures was given two months later (at the end of the treatment).

The results obtained in the tests of *general intelligence* of 10 control seniles:—

Total number of questions when tested—

First time.			Two months later.		
Right.	Wrong.	Omitted.	Right.	Wrong.	Omitted.
184	95	21	177	85	38

From these results it can be seen that the correlation between the two sets of tests is to be relied on and that the second has not proved to be easier than the first. If, then, there should be any appreciable difference in the results of these tests when applied to other seniles before and after treatment it may be legitimately concluded that this difference was not due to the inefficiency of the test as a measure, but to an improvement or decline in the general intelligence of the patients treated.

The results obtained with six patients treated with A.T. emulsion were as follows:—

Total number of questions—

Before treatment.			After treatment.		
Right.	Wrong.	Omitted.	Right.	Wrong.	Omitted.
80	73	27	95	61	24

Comparing these results with those of the control seniles it may be concluded that the seniles after the treatment with emulsion have shown a slight general improvement.

Memory Tests.—In the control group of patients total number of questions right for:—

During first test.		Two months later.	
Memory.	Association.	Memory.	Association.
125	27	103	17

In the patients treated with A.T. emulsion:—

During first test.		Two months after treatment.	
Memory.	Association.	Memory.	Association.
80	26	111	28

The memory tests show the same results as the intelligence tests—namely, the control seniles appear to be going slightly downhill (especially those who are very aged) and the treated seniles after treatment have shown a decided improvement.

Dynamometer Muscular Tests.—A Cheron and Verdin dynamograph was used for the tests and the following figures are those indicated on its scale during the pressure on the knob of the apparatus by the patient's hand. The following table gives the average results for each hand of six seniles before and after treatment with A.T. emulsion:—

No.	First test.		Second test.	
	Right hand.	Left hand.	Right hand.	Left hand.
1	37·2	35·0	42·0	45·2
2	30·2	20·4	32·0	25·4
3	30·0	24·6	24·8	24·0
4	22·2	22·4	25·0	26·0
5	12·2	8·4	13·2	9·0
6	31·8	31·4	31·2	29·2

In this test patient No. 1 has shown a definite improvement, Nos. 2 and 4 slight improvement,

Nos. 5 and 6 practically no change; the right hand of No. 3 has lost some force.

Results in Senile Patients.

It is possible to conclude from all the observations made on senile patients that: 1. The ingestion of a glycerine emulsion of testes and adrenals has only produced a slight improvement in their general intelligence and memory and in some patients in their muscular strength. 2. Comparing the results obtained in senile patients under the above treatment with those obtained by Brown-Séquard's subcutaneous injections, by Steinach's vasectomy, and by transplantation of testes, it is clear that the method—i.e., by the mouth, but not the idea of the special organotherapy—is of no great value.

General Conclusion.

Observations made on 70 tuberculous patients and 14 seniles indicate practically no efficiency in the method of oral administration of preparations of testes and adrenals.

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References.

Alou, P.: Endocrinology, 1923, vii., 335.
Ancel, P., and Bouin, P.: C.R. Soc. Biol., 1905, lviii., 554.
Bernard, L., and Bigart: Jour. de Phys. et Path. Gén., 1906, viii., 84.
Biedl, A.: Innere Sekretion, Berlin and Wien, 1916.
Bogomoletz, A.: Ziegler's Beitr., 1905, xxxviii., 510.
Boinet, E.: Bull. de l'Acad. de Méd., 1909, lxii., 154.
Brown-Séquard: C.R. Soc. Biol., 1889, xli., 415; Arch. de Phys., 1889, xxi., 651.
Copriati, V.: Quoted by Zoth, p. 340.
Costa: Tuberculose Inflamm., Thèse de Lyon, 1905.
Cramer, W.: Sixth Report of the Imperial Cancer Research Fund, London, 1919.
Cristofaletti and Thaler: Quoted by Warnekros, p. 120.
Davis: Barker's Endocr. and Metabol., 1922, ii., 481.
Hansemann, D.: Arch. f. Pathol. Anat. und Phys., 1895, cxliii., 538.
Henkal: Quoted by Warnekros, p. 120.
Henocque, A.: Arch. de Physiol., 1892, xxiv., 45.
Hollos: Zeitschr f. Tuberk., 1914, xxii., 50.
Goldzieher: Verhandl. der Deutsch. Pathol. Ges., 1910, xiv., 137.
Langlois and Charrin: C.R. Soc. Biol., 1896, xlviii., 131.
Lereboullet: Quoted by Lucien and Parisot, p. 432.
Lewis, J.: C.R. Soc. Biol., 1921, lxxxiv., 163; Amer. Jour. of Physiol., 1923, lxiv., 506.
Loewy, A.: Berl. klin. Woch., 1910, xlvii., 883.
Lucien, M., and Parisot, J.: Glandes Surrénales et Organes Chromaffines, Paris, 1913.
Luksch, F.: Verhandl. der Deutsch. Pathol. Ges., 1910, xiv., 136.
Maximovich: Collected Medical Papers of Warsaw Hospital, 1891 (Russ.).
Nixon, C.: Endocrinology, 1924, viii., 106.
Oppenheim, M.: C.R. Soc. Biol., 1901, liii., 316.
Ouspensky: Organotherapy, Petersbourg, 1896 (Russ.).
Pierry, M.: La Tuberculose Pulmonaire, Paris, 1910.
Poncet, A., and Leriche, R.: La Tuberculose Inflamm., Paris, 1912.
Porges, O.: Zeitschr f. klin. Med., 1910, lxx., 243.
Pregl, F.: Pflüg. Arch., 1896, lxii., 379.
Renon: Revue de la Tuberc., 1913, x., 54.
Retterer, E., and Voronoff, S.: C.R. Soc. Biol., 1922, lxxxvi., 1073.
Sand, K.: Ugesk. f. Laeger, 1921, lxxxiii, 1509; Acta Chir. Scandinavica, 1922, lv., 387.
Scott, M.: Jour. of Exp. Med., 1924, xxxix., 457.
Schmidt, P.: Theorie und Praxis der Steinachschen Operation, Wien, 1922.
Sergent: Quoted by Lucien and Parisot, p. 432.
Sezary, A.: C.R. Soc. Biol., 1908, lxv., 603.
Sorgo, J., and Habetin, P.: Beitr. zur Klin. d. Tuberk., 1916, xxxvi., 153.
Stanley, L.: Endocrinology, 1922, vi., 787.
Steinach, E.: Pflüg. Arch., 1912, cxliv., 71; Verjüngung durch exper. Neubildung der alternden Pubertätsdrüse, Berlin, 1920.
Stewart, G., and Rogoff, J.: Jour. of Pharmac. and Exp. Therap., 1922, xix., 97.
Thorek, M.: Endocrinology, 1924, viii., 61.
Tscheboksaroff, M.: Berl. klin. Woch., 1911, xlviii., 1027.
Victorov: Brown-Séquard's Method of Subcutaneous Injections and its Significance in the Treatment of Nervous, Senile, and Tuberculous Patients, 1891, Moscow (Russ.).
Vincenzo and Marcozzi: Quoted by Poncet and Leriche.
Voronoff, S.: Quarante-trois Greffes du Singe a l'Homme, Paris, 1924; Greffe Animale, Paris, 1923.
Walker, K., and Cook, J. A. Lumsden: THE LANCET, 1924, i., 16, 223, and 320.
Warnekros, K.: Zeitschr. f. Tuberk., 1917, xxvii., 116.
Webb, Gilbert, Hartwell, and Ryder: Zeitschr. f. Tuberk., 1921, xxxiv., 67.
Wiesner: Wien. klin. Woch., 1923, xxxvi., 352.
Zoth, O.: Pflüg. Arch., 1896, lxii., 335.

MYOMECTOMY AS THE TREATMENT OF ELECTION FOR UTERINE FIBROIDS.*

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THREE years ago I read a paper before this Section [1] in which I described the results of a consecutive series of 100 myomectomies, and as the outcome of that experience urged a more extensive adoption of the operation so as to include in its scope many of the cases of fibroids commonly dealt with by hysterectomy. Since that publication, and in consonance with it, I have continued the practice of the operation on an increasingly wide scale, so that in three years I have accomplished a further series of 120, the results of which I now report with the object of showing that the main thesis of my previous paper—namely, that in a large proportion of cases of fibroids the uterus can and should be conserved, is sound. So much, indeed, have my views of three years ago strengthened that in my present title I describe myomectomy as the treatment of election for uterine fibroids. I do not mean to imply by that that myomectomy should ever entirely supersede hysterectomy, for no matter how expert we may become at the former operation, and in spite of results far surpassing those obtained up to now, there will always be a certain number of cases in which removal of the uterus is indicated because, apart from the fibroids, it itself is diseased. What I am endeavouring to convey is that conservation of the uterus should be the ideal to be aimed at by the surgeon whenever the organ, apart from the tumours, is reasonably healthy, as it is in the major proportion of the cases. For the compassing of this end two things are necessary, the surgeon must make himself expert in the operation, and the patient must be sent to him before she is so bloodless that it is imperative to stop the periods altogether.

Objections to Myomectomy.

The objections that have been raised against this extension of the scope of the operation are mainly these: (1) that it is often a more dangerous procedure than hysterectomy; (2) that there is considerable likelihood of more fibroids developing; (3) that where menorrhagia is the outstanding symptom it may persist in spite of the removal of the tumours; and (4) that the conserved organ is so damaged that it is functionally useless.

I hope to convince you that none of these objections can be maintained. My new series of 120 operations represents an average of 40 myomectomies performed yearly, so that the patients have not been cautiously selected. I have, in fact, performed the operation in every case in which I felt that conservation of the uterus would be a boon to the woman, irrespective of the number or the position of the fibroids in the uterus.

Number of Tumours Removed.

No of fibroids removed at each operation.	No. of operations. New series.	No. of operations. Old series.	No of fibroids removed at each operation.	No. of operations. New series.	No. of operations. Old series.
1	47	(49)	15	4	(1)
2	9	(10)	17	1	(1)
3	12	(10)	19	1	—
4	8	(5)	21	1	(1)
5	8	(6)	22	1	—
6	6	(2)	24	1	—
7	4	(2)	25	1	—
8	1	(4)	26	1	—
9	2	(1)	30	—	(1)
10	4	(2)	52	1	—
11	1	(1)	80	1	—
12	4	—			
14	1	(4)		120	100

* Read before the Section of Obstetrics and Gynæcology of the Royal Society of Medicine on Nov. 5th, 1925.

[1] THE LANCET, 1922, ii., 745; Jour. of Obstet. and Gynæcol., 1922, xxix., No. 4.

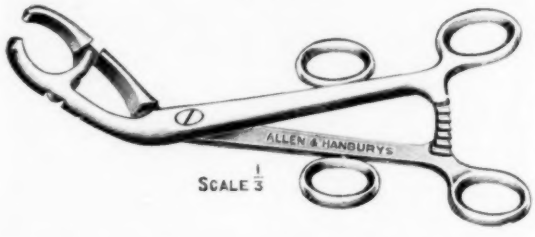
In the above table I have set out the number of tumours removed at each operation. The figures in brackets are the corresponding figures from my old series.

The myomectomy, therefore, was "single" in 47 cases and "multiple" in 73 cases of the new series, and the greatest number of tumours removed from the uterus at one operation was 80.

Technique.

The successful removal of so large a number has been rendered possible by the use of the clamp invented by me (Fig. 1).[2] It acts as a tourniquet

FIG. 1.



applied to the lower uterine segment and controls both uterine arteries at once, so that when the ovarian vessels are temporarily compressed by a ring forceps on either ovario-pelvic ligament the circulation through the uterus is entirely stopped, and the operation becomes bloodless. This is an immense gain, for it not only renders many myomectomies possible which previously were impossible, but in all these operations it permits the surgeon to proceed with the enucleation and subsequent reconstruction of the uterus unhampered and unhurried by the constant oozing of blood which was the chief difficulty previously. The clamp is applied from the front through the lower end of the abdominal wound, and *it is important to put it in so that both round ligaments are included in its grasp*, for otherwise it may slip down the cervix below the point where the uterine arteries enter the uterus. As the enucleation is proceeded with and the uterus shrinks it may need tightening up a notch or two, or even readjusting, and in cases where the supravaginal cervix contains a fibroid this must be enucleated before the clamp is applied. It should not be taken off until the uterus is completely sutured. On its removal the organ temporarily flushes up just as a limb does after a tourniquet is removed and some oozing may start from the suture holes. This usually stops as the flush subsides, but any point that persistently bleeds must be underrun with a mattress suture.

As regards the general technique of the operation I have little to add to what I previously described. I continue to remove all the tumours if possible through a single anterior incision in the uterus, and afterwards in many cases either ventrofix the uterine incision, or shorten the round ligaments, or bring a flap of the loose peritoneum covering the lower uterine segment up to the top of the anterior surface of the uterus, like Pesalozza's operation for retroversion. The object of all these manœuvres is to prevent intestine adhering to the sutured uterus. The various devices which I described and illustrated [3] for getting access to fibroids in the back wall of the uterus and for closing the enucleation cavities have all continued to prove of value. The "hood" operation for large posterior fibroids has been most satisfactory, and a good many of the present series have been carried out that way. I also frequently employ the "transcavity" route for posterior tumours. Opening the uterine cavity has not been followed by any ill-results and I do it in most of the operations to prevent small submucous tumours being overlooked. In the closure of the major enucleation cavities and in reconstructing the uterus I employ silk for the main mattress sutures because I believe it to be the safest. Too rapid absorption of catgut leads to opening up of the cavity it closes and bleeding occurs into the space. This is dangerous, for the hæmatoma may become infected. For sutures of lesser importance I use catgut.

[2] Described in Jour. of Obstet. and Gynæcol., 1923, xxx., No. 3.
[3] Jour. of Obstet. and Gynæcol., 1922, xxix., No. 4.

Objections to the Extended Operation.

Dealing now with the various objections that have been raised against the extended operation:—

Risk as Compared with Hysterectomy.—There were three deaths in this series of 120 operations. Two of the deaths were due to that baffling condition, paretic obstruction of the intestine. Both these patients were elderly women, and the object of conserving the uterus was the same in each case—viz. to ventrofix it and make it act as an artificial ligament to hold up a prolapsed vaginal vault. Neither myomectomy was "large," either in the sense of its difficulty or of a large number of tumours removed. One of the patients had the abdomen reopened before death, and a post-mortem examination was made on the other. In neither case was there found any obvious cause for the intestinal paresis and distension. The disaster may happen after hysterectomy or any other abdominal operation, and in the present instances cannot be attributed to the fact that myomectomy preceded it any more than another operation. The third death was due to pulmonary embolism, which occurred in the third week of what, up to then, had been a perfect convalescence. In my earlier series of 100 operations I had two deaths, one due to post-operative hæmorrhage discovered too late, and one due to peritonitis, secondary to post-operative oozing from the uterine wound. Both these deaths were directly dependent on the myomectomy as such.

There were thus five deaths in 220 operations—an operative mortality of 2·09 per cent. Though series of 100 or more consecutive hysterectomies for fibroids without a death have been recorded a good many times, yet the general mortality of this operation is not so low as these happy runs of luck would suggest. Taking hospital practice all round the mortality of hysterectomies for fibroids, when carried out by surgeons expert in that operation, is probably about the same as I have quoted for myomectomy. Myomectomy at present requires on the average a higher degree of skill than hysterectomy, but as practised on a wholesale scale it is a newer operation, and like all operative innovations presents difficulties which the experience accruing from increasingly widespread adoption will circumvent or do away with. Thirty years ago every hysterectomy bristled with difficulties; nowadays only a very small proportion of these operations extend a trained gynæcological surgeon. Convalescence after myomectomy is usually smooth, but on the average, as compared with hysterectomy, there is more pyrexia in the first week, due probably to absorption from the enucleation cavities. I have not had any trouble from the silk sutures in the uterus.

Recurrence of Fibroids.—Turning to the second objection that new fibroids are likely to develop in the conserved uterus, I have no hesitation in calling it an unsubstantial bogy, provided the operation is performed so that every tumour down to the smallest seedling is removed. Two of my earliest cases exhibited nodules the size of marbles some years after their operation, but they were performed at a time when I was not thorough in searching for and removing every seedling. I am unaware of any others. This freedom from recurrence has indeed surprised me, and led me to recast my opinion on the age of genesis of these tumours. I believe now that the seedling is, as a rule, formed much earlier in life than has been hitherto believed, probably in the 'twenties, and that the formative agent, whatever

it is, is not operative continuously but ceases to act after a period.

Persistence of Menorrhagia.—The third objection that menorrhagia may persist in spite of the removal of the tumours is equally untenable. I have never yet had to operate on any of my patients for continuance or reappearance of excessive bleeding. Where the uterus is greatly hypertrophied from clothing a large fibroid or mass of fibroids it is necessary to cut it down to a manageable size before returning it to the abdomen, for though involution occurs after myomectomy, as after parturition, it is unsafe to trust too much to that. The uterus when sutured should, however, be a little bigger than normal, otherwise, when involution is complete, it will be abnormally small. In such a case the first period or two after the operation will be freer than normal, but decreasingly so as involution proceeds, until the normal is attained.

Function of the Conserved Uterus.—The fourth objection that the uterus from which a number of fibroids has been removed is functionally useless is also fantastic. To my knowledge, a number of my patients have subsequently conceived. Natural delivery is possible even after many tumours have been removed. In my previous paper on the subject I recorded such a delivery after I had enucleated 21, and quite recently Fletcher Shaw published a similar case from whom he had previously enucleated 23.[4] There is probably no tissue in the whole body that heals so perfectly as uterine muscle. I have examined many of my patients a year or more after the operation, and used to be surprised how healthy the uterus felt, but I am getting accustomed to that. Several times I have had the opportunity of inspecting the conserved organ through an abdominal incision, and its appearance confirmed the impression of normality given by previous bimanual examination. Lastly, on two occasions I have tested the tubes by inflation some years subsequent to myomectomy and in both patients they were patent. From one of these women I had removed 17 fibroids. Menstruation a year from the operation has invariably become natural in periodicity and amount, and in those cases in which the fibroids were accompanied by dysmenorrhœa their removal was followed by immediate disappearance of the pain. There is a well-marked class of case in which quite small fibroids in the uterus give rise to very severe monthly pain without other symptoms, and in such the results of myomectomy are most gratifying.

The Uterus in Relation to Ovarian Activity.

There remains to speak of a further function of the uterus—namely, its influence in maintaining ovarian activity, a function which, being lost as the result of removing the organ, is followed by climacteric symptoms due to ovarian atrophy some years earlier than would have happened if the uterus had not been removed. This function is preserved by myomectomy.

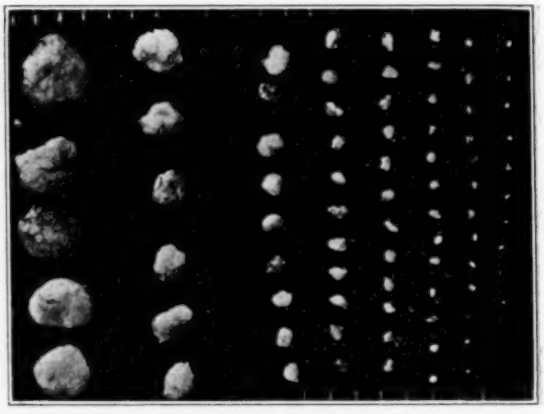
The idea then that the conserved organ will probably be an incubus to its possessor on account of hæmorrhage, discharge, or pain may be dismissed as an example of that unsafe habit of theorising without founding the theory on practical experience which more or less besets all of us.

Clinical Illustrations.

Let me finally record some of the achievements which myomectomy makes possible.

The largest number of fibroids that I have as yet enucleated at a single operation is 80. This patient was an unmarried woman aged 35. She was engaged to be married and was sent to me with the express purpose of having her uterus saved if it was possible. The abdominal tumour was the size of an eight months' pregnancy and was so symmetrical that I thought it probably was composed of a very large solitary fibroid, with perhaps one or two smaller ones. On opening the abdomen it proved to be the great congeries of tumours shown in the photograph (Fig. 2), which were impartially distributed in the front, back, and side walls of the uterus. I was able to enucleate all these with a very small loss of blood, thanks to the

FIG. 2.



Eighty fibroids enucleated from a uterus at a single operation. Each division of the scale represents an inch.

myomectomy clamp I have described, and I reconstructed the uterus so that there is no obvious reason why when she marries she should not conceive.

A year ago I had a very remarkable case of an unmarried girl of 24 with a huge mass of fibroids.[5] I enucleated these to the number of 52, and a week or two since she came up at my request to be examined. The uterus felt absolutely normal, and her periods, which ceased entirely for three months after the operation, are now regular in onset and natural in duration and quantity.

Another unmarried girl of 22 was sent to me with an abdominal tumour the size of a seven months' pregnancy. It turned out to be a solitary submucous fibroid of the posterior wall which, when enucleated, weighed 5 lb. It had undergone nævoid degeneration and was excessively vascular. This was a case which some years ago I should certainly have treated by hysterectomy to the girl's lasting disadvantage and hurt. Instead I performed a "hood" operation and sent her back to her parents well and whole.

Quite recently I operated on a married woman, aged 38, six months pregnant for the first time, on account of a large mass of fibroids, one of which had undergone acute necrosis. It was necessary to begin the operation by removing the pregnancy through the uterine incision because the situation of the fibroids was such that preservation of the child was impossible. I then proceeded to enucleate the tumours to the number of 22 and, though I have removed a much larger number, these were so awkwardly placed (three of them were embedded in the posterior wall of the supravaginal cervix) that I must admit I was daunted. However, I persisted, and in the end left her with an excellent organ in which the vast chances are she will conceive again. This was a case where a child was very greatly desired both by the wife and husband.

In regard to the preservation of pregnancy complicated by fibroids which have to be operated on, it is usually possible to achieve this when the tumour is solitary or, when multiple, not present in large numbers. Seven tumours is the most I have yet been able to enucleate without disturbing a coexistent pregnancy. Where, however, a large number are present, as in this case, the pregnancy must be treated as an additional tumour and "enucleated" too.

I could give many more examples of the beneficent possibilities of the operation, but I think what I have said sufficiently justifies the title of this paper, and I hope to see the time when every surgeon called upon to operate for this condition will enter upon his task with that conception in the forefront of his mind.

[4] Jour. of Obstet. and Gynæcol., 1925, xxxii., No. 3.

[5] Jour. of Obstet. and Gynæcol., 1925, xxxii., No. 1.

A NOTE ON

MARGOSA OIL IN THE TREATMENT OF CANCER.

BY K. K. CHATTERJI, F.R.C.S. IREL.,
MAJOR, I.T.F. MEDICAL CORPS; SURGEON, MEDICAL COLLEGE HOSPITAL, CALCUTTA.

Margosa oil, obtained from the seeds of the nim or margosa tree, has in its composition saturated and unsaturated fatty acids. I commenced my investigations on the oil early in 1917 and later, in collaboration with Prof. R. N. Sen, of the University of Calcutta, the insoluble fatty acids were separated from the oil, and the nature of margosic acid—i.e., the mixed insoluble fatty acids of the margosa oil—was elucidated. On isolating the unsaturated fatty acids the neutralisation value was found to be 185·89 and the iodine value 105·28. The solid acid separated had the neutralisation value 198·12 and iodine value 12, which showed that unsaturated fatty acids were still present in very small quantities. This acid was found to be stearic acid with minute traces of unsaturated acids. The unsaturated fatty acids appeared to consist of oleic acid ($C_{18}H_{34}O_2$) and an acid belonging to the linolic acid series which Prof. Sen declared to be the characteristic fatty acid of margosa oil. $C_{22}H_{40}O_2$ has been suggested for its formula. This acid has been called margosic acid, and it is not known to have been obtained from any other oil.

It has a yellowish colour, is liquid at ordinary temperature, and possesses no optical activity. The sodium and potassium salts are soluble in water; its lead and barium salts are soluble in ether and benzene. It forms about 23 per cent. of the total fatty acids present in margosa oil. At my suggestion Prof. Sen has prepared several salts as well as ethyl ester, allyl ester, and, recently, benzyl ester from the mixed fatty acids.

The evolution of margosate therapy and the sequence of events which narrowed down the field of research and finally centred it in cancer may be interesting from the point of view of cancer research.

In the "Ayurvedas" the cleansing and healing properties of the nim for ulcers are extolled. While testing the antiparasitic and antiprotozoal action of sodium margosate, it was found that in dilute solutions it killed paramœcia, prowazekia, microfilaria, &c. The action of ethyl ester margosic was more potent. Using sodium and potassium margosate therapeutically, it was observed that effects were marked in the granulomatous stages of syphilis (late secondary and tertiary stages), for tuberculous glands and ulcers, in leprosy, and in some varieties of diseases of the skin. As the effect of margosate treatment was rather striking in clearing up the granulomatous conditions, its use was extended to tropical granulomata.

Sodium Margosate, Potassium Margosate, and Ethyl Ester Margosic.

At first I used two of the more soluble salts of margosic acid, sodium and potassium margosates; ½ to 3 gr. (4 per cent. solution) were given. Intramuscular injections caused some local irritation, and intravenous injections caused obstruction in the veins after a few doses.

Ethyl ester margosic is a clear reddish fluid with a fruity aromatic odour and a high boiling-point. It is insoluble in water, but soluble in ether, alcohol, and chloroform. I soon gave up sodium and potassium margosate and brought ethyl ester margosic into use, as I found it superior even to the potassium salt. Ethyl ester does not cause local irritation or irritation to the veins and has no hæmolytic properties. Its margosic content is higher than the salts, and much more so per volume compared to the 4 per cent. solution of the salts that could be used. Being in loose chemical combination it is hydrolysed more readily. Its antiparasitic and bactericidal properties are definitely higher. It seems to influence fat metabolism remarkably, as can be observed from the results obtained from its use in some conditions due to filarial infection.

On testing the blood of many of these patients it was found that there was a variable deficiency in calcium salts in some granulomatous cases, but this deficiency was markedly constant in cancer patients; as a matter of fact, a definite calcium deficiency caused some suspicions of malignancy in cases of granulomatous growths. It is known that the potassium content of the blood of cancerous individuals is above normal, and while calcium has an inhibitive influence on the growth of cancer, potassium acts favourably. In view of these, I gave up the use of potassium margosate and introduced ethyl ester margosic. I gave calcium and parathyroid extract to some of my patients, and I have an idea that improvement was more marked in them.

Ethyl Esters.

Ethyl esters of various oils were prepared, such as cod-liver oil, olive oil, "til" oil, chaulmoogra oil, &c., and a comparative study was made. The ethyl ester of pure margosic acid seemed to have the greatest efficacy; the other oil which approached it in other respects was olive oil. Esters of animal fats and oils were not as effective.

Copper Margosate.

My experiments show that E.E. Cu-margosate has a strong inhibitive effect on the growth of fungi, protozoa, cocci, and other organisms, and that when used therapeutically in the form of local or intravenous injections it induces fibrosis and encourages epitheliation of granulating surfaces. Copper is carried to the tissues with the fatty acid elements; and there is some evidence that copper, like calcium, is attracted to the tissues in which rapid cell division is in progress. The fat and copper in the E.E. Cu-margosate is transported to the tissues, and much is attracted by the rapidly multiplying cells of cancer. Copper gives rise to the formation of fibrous tissue, thus causing barriers and obstructions to the growth of cancer. If the infective origin of cancer is to be taken into account we know that copper has strong antiprotozoal and antibacterial properties, and healthy granulation tissue, fibrosis, and epitheliation follow the elimination of the infective element. In some cases treatment with E.E. Cu-margosate has cleared up the growth and removed all evidences of malignancy. In others this treatment has been supplemented by irradiation by X rays, and in almost all instances it has expedited the process. In my opinion, which I must admit is not based on a very large experience, radiotherapy is indicated for the improvement of local and general metabolism and in order to stimulate lymphocyte activity and fibrosis. The idea of producing caustic or destructive effects on the cells to any great extent by X rays has not appealed to me. In Case 3, epidermoid carcinoma of the leg near the ankle with greatly enlarged femoral and inguinal lymph glands, this combined treatment of the ulcer in the leg and one or two exposures of the glands practically led to their absorption. When the remains of these glands were removed and examined no signs of malignancy were found. This suggests the production of immunising substances, and a heavy dose of exposure like an overdose of vaccine is hardly desirable in a case of cancer. The work of destruction and disposal of the cells could reasonably be trusted to copper and margosate treatment aided by the more desirable therapeutic action of X rays. The action of copper with margosic ester has been shortly described. Minute particles of copper are deposited throughout the neoplastic tissue. It may reasonably be presumed that irradiation of such growths has dual therapeutic effects. The direct action of the X rays accentuates the histological changes produced by copper and the fatty acids, and the rays impinging on the minute particles of copper give it radio-activity and produce a number of small secondary rays in the tissues; the therapeutic effect of the rays is continued and the tissues are kept for a longer period under the influence of these rays than they would be by other methods

of irradiation. Ulcers and tumours have been treated by copper ionisation and then irradiated, but it was thought that, as ionised copper is mostly deposited on the surface, they would act as filters. In this case, on the other hand, the particles of copper being dispersed deeper in the tissues, the primary rays impinging on them would be reflected from them as secondary rays and be absorbed by the tissues. The ideal rays would, therefore, be those obtained from a source giving rays which would have the above-mentioned therapeutic properties without producing lethal effects on the tissues.

Clinical Histories.

I give here summarised reports of three cases of cancer treated.

CASE 1.—Hindu, male, 26 years. Admitted under my charge in the Campbell Hospital in March, 1922, and transferred to the Medical College Hospital in August, 1923, for a fungating ulcer with foul discharge, and unhealthy granulations involving the anus and perianal area, the whole of the perineum, and the scrotum laterally and in front. The inguinal glands were hard and enlarged. There was much pain, defæcation being particularly painful. The patient had lost weight and was cachectic. Wassermann reaction was negative. A provisional diagnosis of anorectal granuloma tropicum was made.

Treatment.—A piece was excised from the growing margin and sent for pathological examination, and treatment commenced. Fifty-eight injections of E.E. Cu-margosate were given locally and intravenously and intramuscularly. During treatment the following changes were noticed: the general appearance of the granulations was healthier, discharge, discomfort, and pain were reduced, defæcation was easier, evidence of cicatrisation and epitheliation.

First pathological report (before commencing treatment)—"squamous epithelioma" (Fig. 1). As much improvement was noticed with the above treatment it was persisted in, particularly as the end-result of operation was not very bright. Second pathological report after 25 injections: "Epithelioma showing dense leucocytic infiltration between epithelial

FIG. 1.

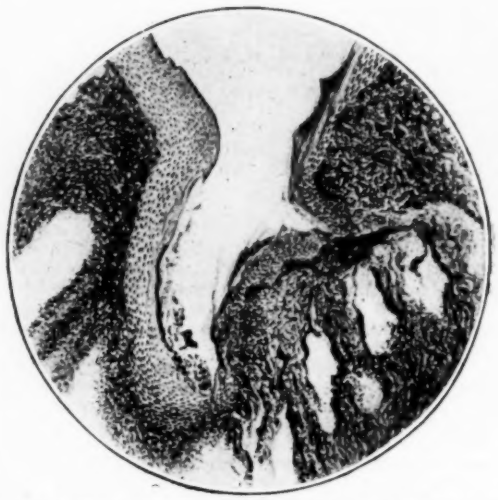
Microphotograph of section of growth before treatment. Pathological report: "Squamous epithelioma."

spaces." Third pathological report after 46 injections: "Under the epithelium a mass of granulation tissue extends deep into the corium. There is no evidence of malignancy" (Fig. 2). By this time processes of cicatrisation and epithelization had extended from the periphery across the growth towards the anus. After 58 injections the ulcer had completely healed. The surface was covered with cicatricial tissue and epithelium; pigmentation of this surface was in progress. This patient was not treated by radiations.

CASE 2.—Hindu, male, 19 years. Admitted under my charge in the Campbell Hospital in June, 1922, and transferred to my wards in the Medical College Hospital in August, 1923, for a large fungating tumour with a foul discharge in the right parotid region. He was very anæmic, with hæmoglobin content of blood 40 per cent., general condition bad, and a low blood pressure. The tumour was 10 inches in circumference and extended to the angle of the jaw below and displacing the ear backwards (Fig. 3, A). The patient did not consent to operation and it was not pressed because of his bad health.

Treatment.—A piece was removed from the margin of the growth for pathological examination. From June, 1922, till August, 1923, he was put on calcium chloride occasionally, and doses of parathyroid extract. E.E. margosic and E.E. Cu-margosate injections were given locally into the growth and intragluteally. He also had 24 radiations by X rays. As a result his general condition much improved, and the hæmoglobin value of his blood rose to 80 per cent.

FIG. 2.



Microphotograph of section of tissue after completion of treatment. Pathological report: "Under the epithelium a mass of granulation tissue extends deep into the corium. There is no evidence of malignancy."

The tumour became much smaller and cleaner, there being only a slight serous discharge; cicatrisation and epitheliation were encroaching from the periphery towards the centre of the surface. An attempt was now made to excise the growth with only partial success as it was firmly fixed to the jaw and adjoining structures. The excised portion was sent for pathological examination and the report awaited before deciding on further operation. As this was rather satisfactory, and the raw surface rapidly became covered with epithelium, any idea of further operation was abandoned. The patient continued to improve, no signs of recurrence in May, 1925 (Fig. 3, B).

First pathological report before treatment was commenced: "Mixed parotid tumour (malignant)." Second pathological report: "A mixed tumour of the parotid consisting of two main elements, (1) a dense hyaline fibrous tissue, (2) a typical carcinomatous element the cells of which appeared to be altered epithelial cells in masses, with numerous small lumen-like spaces containing mucus; a duct origin is suggested. Tumour does not feel to be highly malignant."

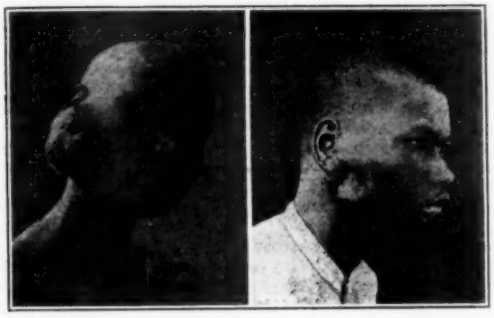
CASE 3.—Mohammedan, male, 55 years. Admitted September, 1923. He was referred to me as a bad case of cancer of the leg, necessitating amputation. The patient, however, wished first to try my method of treatment, and agreed that if no improvement was noticed after two weeks his leg should be amputated. He had a foul fungating ulcer on the mesial aspect of the left leg above the ankle firmly fixed to the lower end of tibia; its diameter was about 4 inches. The femoral and inguinal glands on the left side were enlarged and hard. There was not much emaciation, and the patient was not particularly anæmic. Wassermann reaction negative.

Treatment.—A piece of the growth was sent for pathological examination and treatment was commenced. He had altogether 17 injections of E.E. Cu-margosate and had 16 exposures to X ray mostly of the growth, the glands being exposed only on a few occasions. The ulcer healed up completely. The cicatrix was rather firm and extended for a good extent round the leg. The femoral and inguinal glands were much reduced in size. The remains of the glands were excised and sent for pathological examination. The patient is still under observation; there were no evidences of recurrence up till May, 1925.

Pathological examination of the growth before treatment: "Epidermoid cancer." The lymphatic glands after treatment showed no signs of malignancy.

These three cases have been reported as they were still under observation in my ward when I left Calcutta in May of this year. There were no signs of recurrence. In the third case I apprehended some trouble from the disturbance of venous circulation by extensive cicatrisation which almost encircled the leg.

FIG. 3.



A B

A, Before, and B after treatment.

In some cases I have occasionally scraped and cauterised with thermocautery or electric cautery exuberant and unhealthy granulations. In Case 2 it will be seen that an inoperable growth was rendered operable by this treatment with a satisfactory result. In all cases cicatrisation commenced at the periphery of the ulcer and extended towards the centre, closely followed by epitheliation. Pigmentation appears later at the margins and spreads over the whole surface.

Clinical and Laboratory Notes.

SUDDEN DISAPPEARANCE OF EXTREME ŒDEMA IN CHRONIC NEPHRITIS.

BY A. J. SCOTT PINCHIN, M.D. LOND.,
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THE following case, as an example of the effect of an acute infection on chronic disease, is of some interest, and appears to be worthy of record.

I. T., female, aged 24, was admitted to the Hampstead General Hospital, July 1st, 1924, with extreme œdema.

History.—She had diphtheria at 8 years of age and ever since her ankles have swollen after prolonged standing, but she had considered herself well till March, 1924, at which time the swelling became persistent and steadily got worse until admission. On admission she had a pale, puffy face and severe œdema extending to above the iliac crests. There was no cardiac hypertrophy, though the second sound over the aortic area was increased. Blood pressure 130/85. Marked diminution in urinary output, much albumin, and granular and epithelial casts. Blood-urea, 40. Concentration test, 2·5–1·9–2·4. Wassermann negative. Urea and other diuretics, salt-free diet, baths, &c., failed to have any effect on her œdema. Tapping of the legs produced only a slight reduction, and the skin was so sensitive that drainage was always accompanied by an eczematous condition of the legs.

As no improvement occurred, my colleague, Mr. Gordon Bryan, decapsulated both kidneys on August 26th. The result was disappointing, and she was transferred back to medical ward on Sept. 14th with no improvement. On Oct. 29th the condition was much worse, much ascites and extensive hydrothorax. The legs were punctured again, and she was kept in the upright position, with the result that the chest was clear by Nov. 12th, the ascites less, but much œdema of the legs and trunk. Thereafter massive doses of urea, puncture, hot air, &c. were used in turn.

April 21st, 1925: She had now been nearly ten months in a water-logged condition and her œdema was about the same as on admission. On the evening of this date her temperature suddenly rose to 104·6° F., and she became extremely ill; there was a red inflamed patch on the right leg but no other signs. By the following morning she had a diffuse erysipelatous condition extending over both legs and most of the trunk. Her fever lasted three days, during which she took no food and was in extremis. Eight days later she was again normal, the urinary output had gradually increased to 90 ounces a day, and the œdema had practically gone. Blood-urea, 16. Urine: trace of albumin, one or two granular casts, no blood. On June 4th no albumin was present and she was fit for convalescent home. She was seen two months later on her return from Torquay. She was feeling almost normal; there was no trace of œdema; the urine contained a heavy trace of albumin but no casts.

Personally, I am at a loss for an explanation of this rapid change; it was certainly allied with the acute disease; whether a cryptic streptococcal infection keeping up the kidney condition was wiped out in the sudden onslaught, or the acute fever opened up lymphatic channels and so broke a vicious circle, or whether to a shock reaction in which one sees so many curious results in so varied a collection of diseases, is a subject for interesting speculation.

My thanks are due to Dr. H. W. Perkins for the pathological investigations.

FAT NECROSIS OF THE BREAST.

BY CECIL ROWNTREE, F.R.C.S. ENG.,
SURGEON TO THE CANCER HOSPITAL.

FAT necrosis of the breast would appear to have been comparatively unknown to British surgeons until Geoffrey Keynes drew attention to the condition at the Section of Surgery of the Royal Society of Medicine,[1] and subsequently published[2] a full description of his case, illustrated by excellent microphotographs, which clearly show the histological features of the disease. The obvious importance of the condition in connexion with the differential diagnosis of cancer of the breast leads me to report the following case.

In October, 1922, I saw an unmarried woman of 31 with extremely fat pendulous breasts, who stated that some months previously she had fallen down and struck the left breast on the ground. No bruise or other evidence of injury was apparent immediately, but two small lumps made their appearance some time afterwards.

Examination revealed two hard nodules the size of hazel nuts, one in each lower quadrant of the left breast. They were situated quite superficially and were definitely adherent to the skin, which was slightly puckered over each of the nodules. There was no retraction of the nipple, no discharge from it, and the axillary glands were not enlarged.

A provisional diagnosis of carcinoma or tuberculosis was made and the nodules were removed for inspection. The tissue proved to be unlike anything I was familiar with, but my suspicion of carcinoma was so insistent that I proceeded to amputate the breast, and sent the specimens to be examined microscopically. The report was as follows: "Cannot make final diagnosis; the tissue is mainly adipose tissue infiltrated with small round cells and a few multi nucleated giant cells. No tubercle bacilli found."

I was chagrined to find that I had probably amputated the breast unnecessarily, but I was particularly disturbed because the sign upon which I have always so greatly depended as almost pathognomonic of cancer—adhesion to the skin—appeared to have let me down, but I recognised that this sign might also occur in tuberculosis, and in spite of the inconclusive pathological report I labelled the case in my notes as "probable tuberculosis" and kept it in my mind for future reference.

The original American paper on Fat Necrosis[3] escaped my notice, but as soon as I saw Keynes's paper I realised that he had furnished me with the explanation of my puzzling case and I sent him my slides, which he kindly examined, and informed me that the histological features were similar to those he had described.

The elucidation of this case naturally led me to search for others of a similar nature, and I have investigated a large number of old notes and sections,

[1] Brit. Med. Jour., Jan. 17th, 1925, p. 116.
[2] British Journal of Surgery, April, 1925.
[3] Lee and Adair: Annals of Surgery, August, 1920.

but I can find no further examples of fat necrosis in my own experience, nor have any yet been traced in the pathological department of the Cancer Hospital. Mr. Raymond Johnson also, in his Bradshaw lecture on Cancer of the Breast, states that he has had no personal experience of the condition. It is clear, therefore, that fat necrosis of the breast is a very rare disease, but it is none the less important, for it is evident that the condition is almost certain to be confused with carcinoma and treated accordingly—a doubly unfortunate event if, as in my case, the patient happens to be a young woman, and having regard to the traumatic origin of the disease one would expect it to be just as likely to occur in the early as in the later age-periods.

It is interesting to speculate upon the progress of events in cases of fat necrosis that are not submitted to operation. All the cases hitherto recorded are based upon microscopic examination of tumours, either definitely diagnosed or strongly suspected to be malignant, and we get no help from them in this particular. Does the mass gradually quiet down and undergo resolution? The fact that the lesion involves the fat overlying or infiltrating the breast and not the mammary tissue itself—a point emphasised by Keynes and clearly shown in my own case—suggests that the damaged tissue may undergo absorption and leave little or no trace.

But to me the chief interest of the condition is the implication of the skin recorded in nearly every case, for this is the one sign above all others upon which reliance may be placed in the diagnosis of malignant disease of the breast. It is, of course, nearly always present in the more advanced cases, but it is frequently present in a very slight degree in quite early cases where the carcinoma is so small that diagnosis would be impossible in the absence of this sign, and I had come to regard it as an almost certain indication of malignancy. A shade of doubt will now be introduced when considering the differential diagnosis of breast tumours which involve the skin, for the possibility of fat necrosis will have to be remembered.

A CASE OF RECURRENT HAIR-BALL OF STOMACH.

BY RUFUS HARRIS, M.R.C.S. ENG.,

LATE ASSISTANT SURGEON TO THE GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION, GLOUCESTER.

THE following case is of unusual interest, sufficiently so, I think, to merit publication.

Miss B., aged 35, presented the following history. In 1911 she was operated upon at St. Mary's Hospital, London, for the removal of a hair-ball from her stomach. In April, 1920, she was operated upon by Mr. W. Washbourn, of Gloucester, for a similar condition, and again in June, 1922. When I saw her in October, 1923, she complained of pain and a swelling in her abdomen and loss of appetite of three months' duration.

On examination, a large solid tumour was visible and palpable in the upper part of the abdomen. In view of her past medical history another hair-ball was suspected.

Operation Nov. 11th, 1923, Gastrotomy.—Upon opening the stomach, which was much enlarged, it was found to be entirely occupied by a mass of hair. This extended through the pylorus into the duodenum, and when removed was found to weigh 2¼ lb. and measured 20 in. in length. The girth at the largest circumference in the stomach portion was 15 in. Recovery was uneventful and, after giving a solemn undertaking to refrain from the habit of hair-eating, she was discharged as cured. In November of last year the patient once more turned up complaining of a return of her former troubles, and I again removed a large hair-ball. Up to the present I think she remains quite well.

I may add that, apart from her hair-eating habits, this woman is quite normal mentally, being well educated and a very fair musician. She seems to have suffered no permanent ill-effects from her repeated operations since her abdominal wall is firm, and, when her stomach is not full of hair, her digestion is unimpaired.

Exeter.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTIONS OF OPHTHALMOLOGY AND SURGERY.

Plastic Operations on the Face in the Region of the Eye.

A COMBINED meeting of these Sections was held on Nov. 13th, Sir ARNOLD LAWSON, the President of the Section of Ophthalmology, occupying the chair.

Mr. H. S. SOUTTAR opened the debate from the standpoint of the general surgeon. He said ophthalmic surgeons must have a greater experience of plastic operations around the eye than he had, but one or two methods used by general surgeons in this region might be of interest to ophthalmologists. Many years ago Dr. J. H. Sequeira, in charge of the skin clinic at London Hospital, began to send the speaker cases of hairy mole on the face, a very common condition. When he first had them to deal with he did not realise what the essential difficulty in treating them was—namely, their proximity to the eye. With one exception, all the cases of the kind he had had to treat occurred in children, and he had treated them all by the arm-flap method. For most plastic surgery in which a large flap was needed, the large tubular flap method, as developed by Gillies, was the most potent; but Mr. Souttar still considered that for children the arm-flap method had great advantages—i.e., using the arm as the pedicle for the flap, the arm being extended over the head. He showed slides of a series of cases by means of the epidiascope. In one of them, an extensive mole, a surgeon had attempted to replace part of the mole by a Thiersch graft, a kind of graft quite unsuitable for these cases. These moles could only be adequately replaced by whole-skin grafts, and for a child these were best taken from the shoulder. In one such case, the photograph of which he showed, two flaps were used, the second from the forehead. Here also some ectropion remained at the angle of the eye, and he left, as was his custom in such cases, a small piece of mole there, excising it some time later and putting in a Thiersch graft. In a case of very obtrusive red nævus he succeeded in establishing a normal colour by diathermy puncture.

Mr. A. W. ORMOND introduced the subject from the standpoint of the ophthalmic surgeon. The major part of the work in these cases consisted of repairing or replacing either one or both eyelids, correcting irregularities of lids after cicatricial contractions which had led to exposure of the globe, entropion, ectropion, epiphora, or deformities of the lid margins, and making or deepening a socket to permit the wearing of a glass eye. The means mostly consisted of modifications of flaps and grafts. With regard to flaps, these usually consisted of the whole thickness of the skin, and were either pedunculated or non-pedunculated, while the pedicle might consist of flat skin, tubular skin, soft tissue, or a square base of skin. Grafts, consisting of epithelial layers only, might be small multiple islands of epithelium placed on a granulating surface, or large areas obtained by Thiersch's method and applied directly on to a raw surface or stretched over a mould. In the case of pedunculated flaps, the pedicle could consist of skin applied with its raw surface to the underlying tissues, and it was employed to support the nutrition of the flap by connecting it with its original bed. Or the skin could be raised and rolled round on itself to form a tube, and in that event the flap could be obtained from a site a considerable distance away from the face.

General Principles in Cutting Flaps.

When flaps were taken from the skin in the immediate neighbourhood of the wound, Jacobovici laid down the following requirements: (1) The

pedicle of the flap should be near the site at which the loss of substance had occurred. (2) The long axis of the pedicle should correspond to the long axis of the flap in its new situation. (3) The long axis of the flap should not be too curved, for the elasticity of the skin would cause the detached flap to take the direction desired. Dieffenbach's and Burow's methods of repairing the lids by the shifting of healthy skin in the neighbourhood of the injury had only a limited applicability, and as the contraction might be considerable, the methods might fail. The bed for the reception of the graft should be moist but free from oozing blood, and the graft should fit its bed accurately. There should be immobility and lack of interference for several days. If a whole flap lived and joined up rapidly, the contraction ensuing was not of great degree; it was greater if the edges of the flap suffered. A flap fitting a raw surface with a subjacent bone or cartilage basis would not be found to contract to the same extent as when the bed consisted entirely of soft tissue.

Mr. Ormond said the methods of dealing with a contracted socket were still unsatisfactory. The chief reason was that the substitution of the destroyed conjunctiva was very difficult. Grafts of mucous membrane from mouth or foreskin were with difficulty rendered aseptic, and owing to the degree of their contraction such grafts did not achieve much. He also considered epithelial inlays disappointing when used to enlarge a contracted socket. It would perhaps be well to begin by inserting a cartilage, or paraffin, or a filigree ball into the socket. The implantation of an artificial globe could be carried out as described by Webster Fox. During the war the speaker used cartilage as a substitute for a glass globe, but he regarded paraffin balls as superior. In cutting a Thiersch graft he preferred a large flat knife with a blade an inch deep, the knife and skin being kept moist with sterilised normal saline irrigations. With regard to the wound to be grafted, all granulations should be completely removed, preferably with scissors, perfect hæmostasis being obtained by pressure. The wound could be washed when necessary with sterilised normal saline and kept immobile, covered with thin dry gauze dressing and cotton-wool, and left without interference for a week. At the end of that time the dressing should be removed by soaking it for the time necessary to float off the wool and the gauze, possibly as long as an hour.

In ordinary peace conditions the individuality of the patient should be taken into consideration in deciding on the procedure—i.e., his position in life, financial standing, and his occupation. In some cases the prospect of a long treatment and the repetition of operations with the inactivity had a bad effect on the mentality. Where there were no special circumstances limiting the choice of procedure, the method employed should be that which most nearly approached the normal.

Mr. T. P. KILNER showed a number of slides illustrating results secured at the hospital at Sidcup in cases of the kind under discussion. These included some very severe examples of symblepharon, in which Thiersch grafts were used successfully, both on the globe and on the inner aspect of the adherent eyelid. A further procedure carried out was that for replacing lost eyebrows. In dealing with a considerable number of cases of bad burns of the face, some of them by explosions of petrol, it was found that the eyebrows possessed three definite functions: shading the eye from the sun; acting as collectors of sweat—officers who had lost their eyebrows complained that when playing tennis the perspiration poured into their eyes; and the third function was protection of the eyes from the wind. Eyebrows might be made by whole-thickness grafts from hair-bearing skin, the area being carefully selected beforehand to see that the hairs were growing in the direction required in the brow.

Mr. G. H. POOLEY (Sheffield) said that, following the surgical removal of tumours, plastic operations could be carried out immediately if the base was satisfactory and the patient's condition warranted it. In the case of accidental wounds which were fairly clean, grafting could be carried out as soon as the wound became clean and quiet. But in the case of burns caused by molten metal, by chemical or by electrical means, grafting must be deferred until the contraction of the scar ceased. And where the deficiency of tissue was due to septic conditions, causing extensive sloughing, he considered that no attempt to graft should be made for at least 12 months after all sepsis had apparently ceased. When operating for any but recent injuries the skin should be incised about a quarter of an inch from the palpebral opening, parallel to the margin of the eyelid affected. It was most satisfactory, he found, to use a large flap with a wide pedicle, large enough to more than fill the space. For a badly contracted socket a modified long temporal skin flap could be used. The complication which he found caused perhaps the most trouble was that which following a burn produced an extensive adhesion of the eyelid to the eye, especially when a large part of the cornea was involved. For this, he divided a gross adhesion of the lower lid to the lower two-thirds of the cornea, and cut through the tissue which obliterated the lower fornix of the conjunctiva, cutting freely to each side, and continuing the incision below to three-quarters of an inch below the original bottom of the fornix. He then sutured a layer of rubber sheeting into the wound to keep the two raw edges apart. He left it in situ for months, until epithelium had grown over the raw surfaces. The result of this procedure had been most satisfactory.

Mr. J. J. SHAW (Edinburgh) showed a number of slides of cases on the screen, and described the operation he had carried out in each instance.

Mr. M. W. B. OLIVER adopted a similar method, and laid stress on the importance of not making the grafted lids bulky. A temporal flap should always include the superficial temporal artery. In order to carry out an epithelial inlay properly it was necessary to remove the whole of the conjunctiva and all the orbital tissue; his custom was to remove everything down to the periosteum. Moreover, the mould must be covered with one single skin-graft.

Mr. A. EDMUNDS gave his experiences with rodent ulcers of an extensive nature by means of grafts, his method of choice being to excise the growth and replace it by a sliding flap. He likewise showed a number of photographs of cases in stages.

Mr. T. HARRISON BUTLER said that in cutting Thiersch grafts it was an advantage to coat the razor with paroleine or sterilised olive oil.

Cases were shown before the discussion by Mr. MALCOLM HEPBURN, Mr. OLIVER, and Mr. F. A. WILLIAMSON-NOBLE.

MEDICAL SOCIETY OF LONDON.

AT a meeting of this Society, held on Nov. 9th, Sir HOLBURT WARING, the President, occupying the chair, a discussion on

OBSCURE PYREXIA IN CHILDHOOD

was opened by Dr. ROBERT HUTCHISON. Cases of fever in childhood without physical signs were, he said, met with in practice in three forms. The first were those with an acute fever which had lasted for more than a week without being accompanied by obvious physical signs; the second were those cases which had recurring bouts of fever; and the third had very prolonged fever but slight in degree.

Acute Fever without Signs.

In cases in the first of these classes influenza was apt to be the diagnosis arrived at, but in uncomplicated influenza the fever did not last more than a week, while if complications did exist, physical signs would be present also. An enteric infection should always be thought of, perhaps especially one of the paratyphoids, and this was not by any means excluded by the absence of all the classical signs and symptoms of paratyphoid infection. A diagnosis could be made in the early days by means of a blood culture, and, after the tenth day, by the agglutination test. Confirmation was afforded by the presence of leucopenia. A pulse-rate which was low in proportion to the temperature was always suggestive. Many cases in this same group were due to a pneumonia beginning deep down in the lung, or which affected only the apex, signs of which were either absent or had been overlooked. Also a high respiration-rate with "inverted rhythm" was suggestive, and light percussion would often, in such cases, elicit dullness. *B. coli* pyelitis in babies might produce an acute and sustained pyrexia, with but little to direct attention to the cause. The urine might seem clear, but a centrifugalised catheter specimen would disclose the organism; and the therapeutic test—disappearance of the fever when the urine had been rendered alkaline—would confirm the diagnosis. A very rare cause of obscure pyrexia in childhood was the condition known as medical septicæmia, but it might sometimes be found to follow an acute throat infection whose symptoms had been slight, perhaps had been quite overlooked. Rashes, joint pains, and other indications of a septic process might occur, and usually a blood culture would show the presence of streptococci.

A condition which should always be thought of in young children was acute otitis media. There might be but slight earache to direct attention to that organ, and inspection of the drum in young infants was often difficult. The problem might only be solved by the sudden appearance of a discharge from the ear. Dr. Hutchison was somewhat sceptical of teething being, in itself, a cause of continued obscure pyrexia, but admitted that occasionally cases were met with in which no other reason could be assigned. He quoted one or two such. Constipation might sometimes bring about even high and continued pyrexia, for it disappeared at once after a large enema. One child, 5 years of age, had, when seen, been running a temperature of 103° F. for eight days. The surroundings were insanitary, and at first it seemed likely to be enteric. But an enormous greenish offensive stool was evacuated, and thereafter the temperature became and remained normal.

Coming now to rarer causes of pyrexia, Dr. Hutchison mentioned first acute leukæmia. Especially if of the myeloid variety, this might reveal itself by fever for some days before enlargement of the spleen or glands, or the presence of anæmia were definitely perceptible. The possibility of acute miliary tuberculosis existing for some time, without definite evidence in the lungs or elsewhere, must always be present in the clinician's mind. A rapid respiration and pulse, and the presence of cyanosis, must be regarded as suspicious signs, and examination of the fundus oculi might reveal tubercles.

Recurrent Fever.

In the second group the child, usually beyond the age of infancy, had bouts of fever which lasted, at the most, for a few days, good health apparently prevailing between. Many of these cases were of alimentary origin, the so-called "food fever" of Eustace Smith, or the "hyperpyremia" of Francis Hare. These children, in many instances, had chronic intestinal indigestion or mucous disease, and the recurrence of the fever in them could be prevented by cutting down the diet, especially in the matter of milk, and by the administration of aperients and cholagogues. In another group of recurrent fevers the cause would be found to be a chronic septic infection of the tonsil. In these there would usually be a history at some time of acute tonsillitis, and the glands at the angle of the jaw would be found to be enlarged. Excision of the tonsils in these cases caused the attacks to cease. In children of about this age, too, chronic *Bacillus coli* infection of the kidneys, with periodic exacerbations, was an occasional cause of recurrent pyrexia, and could easily be overlooked. Examination of the urine during an attack would reveal the presence of the organism along with some pus. A focus of deep-seated tuberculosis, such as in the mediastinal glands, might also cause recurrent pyrexia. Methods of determining its presence needed consideration.

Prolonged Slight Fever.

In the third group the fever had lasted some weeks, even months, but was slight, perhaps not more than half or one degree in the evening. In some this was due to a chronic focus of sepsis, and the focus was very likely to be in the tonsils. Others were associated with chronic mucous colitis, which could be recognised by the presence of mucus and membranes in the stools. Latent rheumatism had sometimes been suggested as a cause of slight continued pyrexia, but the speaker considered that this was a rare event without other evidences of rheumatic infection, such as muscle and joint pains or chronic endocarditis. In this class of case, too, tuberculosis must be present to the mind, though that disease is not a frequent cause of this type of fever. Its exclusion from the possibilities was often a matter of difficulty. Teething could cause the same form of slight fever, and cases were adduced in which the fever ceased when a molar had been erupted. A further possibility which had been enlisted in this type of case was instability of the thermo-taxic mechanism, but the speaker's experience was that true neuro-mimetic fever did not occur in childhood. He suggested that the discussion might very usefully take the form of considering the means of excluding tuberculosis in cases of obscure pyrexia occurring in childhood.

Discussion.

Dr. WILFRED PEARSON said in some of the cases which had ended in an aural discharge the temperature had been of the septicæmic type, and the ear symptoms had been very slight. It was often an advantage to do a blood count, when a leucopenia and polymorphonuclear leucocytosis would sometimes be found. Deficient fluid might be a cause of fever, or the ingestion of sodium chloride might produce it. In dealing with cases of persistent slight temperature, the trouble often was in knowing what was the normal temperature to the particular child. His experience had been that up to the age of 10 years 99° F. must be regarded as normal in the morning, and in the evening 99·5°. In some slight temperature variations it was difficult to exclude a skin eruption, constipation, or slight catarrh. Sometimes a slightly high temperature was found to be a family characteristic. He agreed as to the importance of diagnosing between tuberculosis and mucous disease, but the differentiation had to be made mainly on clinical grounds. He had found much help from the fact that children with mucous disease wasted intermittently, while in tuberculosis the loss of weight was progressive and regular. It was also important to make a number of examinations of stools. It must always be remembered that tonsils which looked harmless might yet harbour a septic focus and keep up the temperature.

Prof. F. LANGMEAD agreed as to the frequency with which cases of *B. coli* infection were missed, largely because examination of the urine in a small child seemed so often to be regarded as of little importance, and specimens were not collected without difficulty. He had seen a lancing of the gums bring down temperature at once. One puzzling case was that of a child who was running a temperature of 104°, and eventually the administration of ergot brought away a dead round worm, and no fever occurred after that. The presence of intense

cyanosis in a child should lead to strong suspicion that the temperature was caused by acute general miliary tuberculosis. Also there must be considered cases of "cyclical vomiting" without cyclical vomiting. He had watched some of these cases through and found that at about puberty they suffered from migraine. He referred to protein idiopathy as a cause of temperature in Dr. Hutchison's fourth group. In cases of long-continued bouts of fever it was important not to neglect the psychological background; some children exhibited fever following excitement, pain, or even excessive exercise. Tuberculosis might be the explanation of the fever in any of the groups Dr. Hutchison submitted, and he commented on the great discrepancy which existed between clinically diagnosed and undiagnosed (until autopsy) tubercle, a very important matter in such a serious disease. It was, however, on the whole, a disease which was well resisted by children.

Dr. WALTER BROADBENT spoke of the importance of the proximity of manholes as a cause of obscure pyrexia, and gave several examples bearing out his contention. He also showed that teething was a fairly frequent cause of pyrexia, which was stopped as soon as the gums were lanced. Sometimes tuberculosis following measles was a cause of temperature persisting, for a later sequel had been tuberculous meningitis. He also believed rheumatism to be a cause of intermittent pyrexia. He now treated his cases of rheumatic fever by placing them on the balcony in the open air.

Mr. E. D. DAVIS said that with regard to the tonsil, sometimes this was salient and obtrusive, but a deeply buried tonsil might be equally large. In an ear case the child was more obviously ill and looked ill. Examination of the child's ear with a Siegel's speculum obviated some of the disadvantages mentioned by Dr. Hutchison, and the comparative absence of pain in the ear was for the reason that there was not much tension at the site, and the child's drum would burst without much provocation. In children, otitis media sometimes developed very rapidly—within a few hours.

Mr. CECIL ROWNTREE said that the finding of calcified mesenteric glands indicated that those glands had at some time probably caused an obscure pyrexia, probably they were the kind of cases which had become infected in infancy with tuberculous milk, for infection from that cause frequently took place in the glands at the ileo-colic angle. Probably the trouble caused in early life was too slight to lead to a diagnosis. The X rays could be of use in the early stage of tuberculosis of mesenteric glands, as they showed a flocculent appearance; later the glands could be seen to be calcareous.

Dr. G. E. WARD gave an account of a striking case of pyrexia due to a round worm, the temperature at once subsiding when the worm was evacuated.

Dr. A. CASTELLANI called attention to the group of parenteric fevers, with a behaviour like enteric. In Ceylon and India it was common to see children with fever whose stools were filled with acarus eggs. He referred also to ankylostomiasis fever, some cases of which exist, he said, in this country.

Dr. F. G. CHANDLER spoke chiefly on skiagraphic signs of tuberculosis in children, and exhibited skiagrams to illustrate his points.

Dr. G. W. GOODHART spoke on colon bacillus pyelitis as a cause of pyrexia, and questioned the opener as to the signs which were thought to establish the diagnosis. He would not himself lay stress on any of the organisms he might find in a child's urine.

CORRIGENDA.—In the Bradshaw lecture (THE LANCET, Nov. 14th, p. 1010, col. 2, line 40) the phrase "their regular peristalsis" should read "the irregular peristalsis."

The word diuretin in the penultimate sentence of Dr. A. R. Gilchrist's article in the same issue on "Novasurol: a New Diuretic," should read *diuretic*.

GLASGOW ROYAL MEDICO-CHIRURGICAL SOCIETY.

A MEETING of this Society was held on Oct 23rd, Prof ARCHIBALD YOUNG, the President, in the chair, when a discussion took place on

Optic Neuritis and its Significance.

The President, introducing the discussion, referred to the varying applications of the term optic neuritis, and suggested a number of questions on which he hoped the discussion might throw some light He urged the importance of the early recognition of the presence of optic neuritis while the chances of saving vision were still reasonably good

Dr. H. WRIGHT THOMSON opened the discussion by reviewing briefly the terms in common use in connexion with inflammation or congestion of the optic nerve—e.g., retrobulbar optic neuritis, optic neuritis, papillitis, papillœdema or choked disc, neuro-retinitis, and optic pseudo-neuritis. He differentiated optic neuritis as seen by the ophthalmoscope in the light of recent pathology into two classes: (1) A true neuritis—i.e., an inflammation of the nerve head—to which the name papillitis was given. (2) Papillœdema, where the changes were due to œdema and histological evidence of inflammation was absent or so slight as to be negligible. Considering next the mechanism producing papillœdema, he quoted Sir John Herbert Parsons's views that the predominant factor was increased intracranial pressure, and referred to the three common theories as to its production. (*a*) Impediment to the return of lymph along the intravaginal space of the nerve. (*b*) Impediment to the venous return. (*c*) Arterial anæmia, leading to altered conditions of osmosis at the nerve head. While a true typical neuro-retinitis was easily distinguishable from a true papillœdema, there were many cases in which it was impossible to say whether the ophthalmoscopic picture was papillœdema or neuro-retinitis. Finally, Dr. Thomson referred to the extraordinary variation in the appearance of different persons' normal discs, and uttered a warning against the diagnosis of inflammation or œdema in the absence of any definite swelling or hæmorrhages, especially if both fundi showed the same picture.

Dr. A. J. BALLANTYNE, in discussing the part played by papillœdema in the diagnosis, prognosis, and treatment of medical and surgical cases, referred to some interesting figures obtained from the records of routine eye examination in (*a*) a general hospital, and (*b*) an eye hospital. In 1100 cases examined, without selection, in the wards of the general hospital, papillœdema was found in 5 per cent.; intracranial tumour, renal disease, and tuberculous meningitis providing the vast majority of examples. Among 6000 cases seen at the Eye Hospital only 0·5 per cent. showed papillœdema, and the majority belonged to two classes, renal neuro-retinitis and acute retrobulbar neuritis. In private practice papillœdema of any form or degree apart from albuminuric neuro-retinitis was extremely rare. In the Eye Hospital cases not a single example of choked disc or of intracranial tumour was found in over 6000 cases. Papillœdema occurred most frequently as part of a neuro-retinitis either frankly renal or arterio-sclerotic in type. Acute retrobulbar neuritis was surprisingly common, differing, however, from the classical description in that the cases presented a notable degree of papillœdema indistinguishable, in some cases, from that due to early cerebral tumour or from that of renal neuro-retinitis. Referring to the question of trauma as a cause of optic neuritis, the speaker quoted two cases in which papillœdema occurred, along with other evidence of injury to the base of the brain. This was attributed in the one case to œdema of the brain following concussion and in the other case to cavernous sinus thrombosis. Finally, discussing papillœdema as a guide to treatment, Dr. Ballantyne considered that it had little or no

localising value in intracranial tumours, nor even was it a guide as to the side of the brain involved, and he concluded by making a plea for greater concentration on the simpler problem of decompression for the preservation of sight, rather than on the time-consuming though doubtless higher aim of the accurate localisation and removal of the tumour.

The following also spoke: Prof. T. K. MONRO, Prof. W. K. HUNTER, Dr. BROWNLOW RIDDELL, Mr. DONALD DUFF, and Dr. T. S. BARRIE.

The PRESIDENT then described briefly a method of supporting the bulging brain in extensive decompressive trephining, and showed a number of illustrative coloured drawings.

JAMES MACKENZIE INSTITUTE FOR CLINICAL RESEARCH, ST. ANDREWS.

AT a meeting of the Institute on Nov. 3rd Prof. LORRAIN SMITH read a paper on the Pathology of Focal Infection, illustrated by numerous lantern slides. The lecturer demonstrated the spread of infection from focus to focus in many infective conditions, including tubercle, and showed clearly that certain organisms could circulate in the blood without giving rise to noticeable symptoms, until they formed a focus in the tissues. These foci were found in connexion with lymph nodes which were exceedingly numerous in all tissues. On the settlement of an organism the local resistance might be sufficient to destroy it, but if the focus became established it acted as a centre of distribution from which other foci were formed. The main source of destruction of organisms was, however, undoubtedly the blood. The explanation commonly given of the formation of foci was the arrest of active material by mechanical obstruction in lymphatics or capillaries, but similar focal lesions resulted from the presence of soluble toxins in the blood. An investigation into the focal mechanism which was responsible for such results should advance greatly our knowledge of the liability to disease. The lecturer also drew attention to facts, established by Rosenow, suggesting that in some instances infective organisms might acquire a property by which they showed a selective preference for certain sites. Typhoid bacilli showed a noteworthy preference for the gall-bladder, for example, while metastatic infection in bronchiectasis showed a predilection for the central nervous system. The problem of general immunity had been widely investigated, but the question of local immunity and the focal mechanism upon which it was dependent had not been worked out. The paper gave rise to an interesting discussion.

BRISTOL MEDICO-CHIRURGICAL SOCIETY.

A MEETING of this Society was held on Nov. 11th at the University of Bristol, when Dr. H. H. CARLETON read a paper on

Some Pulmonary Problems,

with a special reference to radiography. He emphasised three points in technique if the maximum value was to be obtained from skiagraphy: (1) rapid exposure, about half a second; (2) the film must be sufficiently large to include the whole chest; (3) a standard position for the target. In interpretation of skiagraphs, he said, it must be remembered that normal lungs differed widely in the amount of fibrous tissue they showed. Well-marked striation might be compatible with perfect health. Clinical fibrosis required dense shadows, falling-in and rigidity of chest, and shortness of breath. In silicosis the fibrous tissue often occurred in plaques. Peripheral stippling in intercostal spaces was seen alike in bronchopneumonia, tuberculosis, and silicosis. The differential diagnosis could not be made with certainty on radiographic appearances alone.

The mobility of the trachea led to visible deviation of the tracheal shadow in chronic cases. Such deviation was an index of chronicity, and therefore a measure of the powers of resistance on the part of the patient. Further deviation of the trachea and mediastinum was a guide as to the results of intrathoracic pressure in cases of pneumothorax, and, if noted, excessive pressures could be avoided. Fluid in the chest, when gas was also present (hydrothorax), presented a clean-cut mobile straight line, characteristic in appearance and widely different from the fine line seen in simple pleural effusion. It was impossible by skiagraphy alone to distinguish between the presence of serous effusions and pus in the chest. Glands in the chest did not necessarily indicate active disease; they more usually indicated good resistance. When stippling occurred in the intercostal spaces beyond the field of the intrapulmonary glands it was an indication that the glands had failed in their efforts to resist the advancing tide of infection. Cavities should never be diagnosed on X ray appearances alone without confirmatory clinical signs. Radiography showed that pulmonary tuberculosis was by no means so frequently an apical disease, even in its early stages, as was commonly supposed.

The speaker demonstrated the value of radiography in relation to treatment by artificial pneumothorax, both in the choice of cases and as a guide during the progress of induction of an artificial pneumothorax. He spoke of the possible dangers of infection of the pleura from the breaking down of adhesions, a misfortune which had occurred to him in a case of unilateral bronchiectasis. The lecturer expressed his thanks to Dr. F. J. A. Mayes and Dr. F. G. Bergin for their assistance in providing his series of skiagraphs.

Discussion.

Dr. BERGIN said that while agreeing that peribronchial infiltrations were usually not indications of tuberculosis, they were often indicative of early pathological changes. He did not agree that, if the upper level of fluid in a chest appeared as a line, gas was present.

Dr. MAYES maintained that an X ray diagnosis of tubercle could often be made before clinical signs enabled this to be done. He attached importance to diminution of diaphragmatic excursion; this meant a gross lesion of the lung. He emphasised the importance to be given to shadows in the outer third of the chest area; in the medial third shadows were not uncommon. The more dense and definite a shadow, the less active the condition causing it.

Dr. F. H. EDGEWORTH related a case in which good health was interrupted by a sudden hæmoptysis. No physical signs appeared, except loss of diaphragmatic movement, shown by X rays. Three weeks later an apical friction was found. Sanatorium treatment was successful.

Dr. J. O. SYMES thought that "skiagraphy showed too much rather than too little." He had never seen a case with no symptoms or physical signs in which the skiagram helped a diagnosis of phthisis. He was interested to learn of the tracheal deviation as a new and helpful sign, and asked whether there was any means of diagnosing adhesions by the X rays.

Mr. C. F. WALTERS related a case in which a definite upper level of fluid was seen. No empyema was found, but at operation a lung abscess was discovered.

Dr. J. A. NIXON said that screening was important. He agreed that striæ did not necessarily indicate tubercle, and that "cavities" diagnosed by skiagraphy often did not exist at autopsy. But a similar mistake was not unknown when physical signs were relied on.

Dr. CAREY COOMBS thought that a linear upper border of fluid did appear when no physical signs indicated gas, and suggested that we might have to reconstruct our ideas on intrathoracic physics; this

promised an interesting research. The great value of X rays lay in their help in showing the position and extent of lesions.

Reply.

Dr. CARLETON, in reply, said he thought there was one sign of a cavity which was reliable—a semicircular area of which the straight side was influenced by gravity, and which could be made circular by coughing up the contents. In regard to the line above fluid, he meant a clear-cut definite line, about which there was no mistake—this was pathognomonic of gas. When screening a chest the eyes should be fully accommodated to darkness; minimal illumination was useful in bringing out slight differences in transparence. Defective movement of the diaphragm was a sign of pleurisy, not of tubercle. He was satisfied that artificial pneumothorax was the best method of arresting hæmoptysis.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

AT the first meeting of the session Mr. H. BELL TAWSE, the President, took the chair, and Sir STCLAIR THOMSON gave an address on Difficulties in Deglutition and Some Diseases of the Œsophagus. After strongly condemning the use of bougies, coin-catchers, and probangs, Sir StClair Thomson illustrated, by a series of lantern slides, the development of the endoscope from the time of Bozzini to the present day, and showed how the advent of electricity, cocaine, the telephone, the motor-car, and the X rays had made it possible for a patient having a foreign body in the upper air or food passages to be brought from a distance, diagnosed, and effectually treated within a few hours of the accident. Other slides showed congenital occlusion of the œsophagus, pharyngeal and œsophageal pouches, achalasia of the cardiac orifice, and malignant disease. The lecturer pointed out the futility of gastrostomy in congenital occlusion and the advisability of operating on pouches before the patient was too wasted. He asked philosophers to explain the thickening of the walls in achalasia; recommended early gastrostomy in malignant stricture; and, touching upon the difficulties and dangers of œsophagoscopy, drew special attention to the thinness of the œsophageal walls, and emphasised the need for the expert in these cases. He wound up his address by strenuously advocating the routine examination of the larynx and œsophagus in all cases of hoarseness or dysphagia of three weeks' duration.

ULSTER MEDICAL SOCIETY.

AT a meeting of this Society, held on Oct. 29th, MR. JAMES A. CRAIG delivered his presidential address on the Retina in Constitutional Disease. After drawing attention to the close relationship between ophthalmology and general medicine, he spoke of the advantages of the eye as an organ in which to study the circulation and its abnormal conditions, and described Bailliart's method of estimating the tension of the retinal arteries. Having illustrated the ophthalmoscopic appearances in hyperpiesis and sclerosis, he laid emphasis on the part which sclerosis of the small vessels, such as those of the retina, plays in the production of general hypertension. An ophthalmoscopic examination afforded an index of the condition of the small arteries throughout the body. He pointed out how often sclerosis of the retinal vessels was discovered by the oculist in patients who considered themselves in perfect health, and discussed what should be done. Referring to the question how far the condition of the retinal vessels was a guide to that of the cerebral, Mr. Craig quoted the work of Foster Moore and Adams, and mentioned the parallel which exists between amaurosis fugax and retinal thrombosis, on the one hand, and temporary aphasia or paresis and cerebral thrombosis on the other. He then gave an analysis of 50 consecutive cases in which retinal hæmorrhages were discovered during a routine examination in patients complaining of eye symptoms. In referring to the unduly large percentage of these in which no information on the result of a general examination of the patient could be obtained, he appealed for a closer coöperation between the practitioner and the oculist. In a review of the subject of renal retinitis, attention was drawn to the resemblance which exists between the symptoms of eclampsia and those of acute lead poisoning. It was suggested that the constriction of the retinal vessels and blanching of the fundus characteristic of the latter might be found to some extent in patients suffering from eclampsia during the attack, although in this condition it was generally held that no changes occur in the fundus. The address concluded with a review of the evidence of the existence of diabetic retinitis as a distinct entity, and suggested a coördinated investigation by the oculist, physician, and biochemist, in order to add to the knowledge of the essential nature of the fundus changes associated with glycosuria.

FRENCH NATIONAL LEAGUE AGAINST VENEREAL DISEASE.

CONFERENCE ON CONGENITAL SYPHILIS.

THE conference on congenital syphilis organised by the League was held in Paris from Oct. 5th to 7th with Prof. Jeanselme in the chair, when the three days were devoted to discussion on (1) latent congenital syphilis, (2) the treatment of congenital syphilis in the suckling and the young child, and (3) the preventive treatment of congenital syphilis.[1]

Latent Congenital Syphilis.

Mr. Leredde opened with the assertion that alongside well-established cases of congenital syphilis with well-marked symptoms and signs and positive serum reactions, there exist much more frequent forms where the diagnosis is by presumption. Such presumption is permissible if there exist any congenital malformation or maldevelopment whatsoever, or any chronic malady in an infant the cause of which cannot be ascertained, any history in any relatives of any disease which may possibly be caused by syphilitic infection, any familial affection whatsoever, and certain varying changes in the blood and cerebro-spinal fluid. To the signs of congenital syphilis in young children described by Marfan, the speaker added cases of enteritis in the absence of any dietetic errors, eczema and prurigo in infants, and recurrent bronchitis in young children. Among the late symptoms due to latent congenital syphilis Mr. Leredde would include certain neuroses and neurasthenic states, epilepsy, mental deficiency, Parkinson's syndrome, incontinence of urine, "pure" mitral stenosis, emphysema, bronchitis, asthma, dyspepsia, chronic appendicitis, Graves's disease, and diabetes. He also stressed the close relationship between congenital syphilis and tuberculous infections.

MM. Lesné and Boutelier also brought forward a long list of disorders caused by latent congenital syphilis, and among others not mentioned by the previous speaker were Paget's disease, chorea, myopathies, and aerophagy.

Mr. Devraigne referred to Prof. Marfan's figures, which went to show that at the Hôpital des Enfants-Assistés 16 per cent. of infants had certain congenital syphilis, and if the probable cases be included this percentage is nearly doubled. He dealt with certain

[1] A full report of the discussion appears in the Presse Médicale, Nos. 82, 83, and 84, 1925.

results of syphilitic infection on the fœtus and fœtal structures during pregnancy, and largely followed Marfan in his list of disorders in infancy due to syphilitic infection. He discussed the Wassermann reaction in congenital syphilis, pointing out that in the early months a positive reaction may be masked by, it has been suggested, the presence of excess of bile pigments in the blood.

Mr. Carle (Lyons) dealt with many of the masked forms of congenital syphilis, and among previously unmentioned diseases quoted infantile paralysis, disseminated sclerosis, mongolism, and many dermatoses. He emphasised the difficulty of diagnosis and said that he considered the result of antisyphilitic treatment the best criterion of the nature of doubtful signs and symptoms.

In the discussion which followed, Mr. Lesné uttered a note of warning lest any affection of childhood of unknown origin be called "masked" congenital syphilis, and dealt with certain diseases which are rarely caused by this but are more frequently due to other infections.

Treatment of the Newly Born.

Mr. Marcel Pinard dealt with the treatment of congenital syphilis after the birth of the child. He referred to the administration of mercury by the skin, by the mouth, and by the rectum, mentioning also the use by the mouth of stovarsol and treparsol. Intravenous medication, particularly the use of arsenical compounds, was thoroughly dealt with. He considered the intravenous route the most effective: it is less painful than the subcutaneous or intramuscular, the drug is rapidly absorbed and quickly arrests the syphilitic process. He thought that the use of too small doses might actually do harm.

Mr. H. Lemaire also considered the intravenous injection of novarsenobenzol the method of choice, and stated that accidents were very exceptional. He employs the drug dissolved in 4·7 per cent. glucose solution, and follows Marfan's dosage of 0·5 cg. per kilogramme of body-weight for a first dose, followed by 1 cg. for two doses, and then 1·5 cg. for the next five doses, all per kilogramme. The drug is given at weekly intervals for eight weeks. He referred to the use of bismuth by intramuscular injection, and considered that therapeutically mercury comes last on the list of these three drugs. The duration of treatment was generally about four years, although with novarsenobenzol this period might be somewhat reduced.

In the discussion which followed, Mr. Van der Valk, of Amsterdam, gave an interesting account of his treatment of 41 cases of congenital syphilis. He used calomel by the mouth and neosalvarsan by intramuscular injection over a period of three years. All symptoms disappeared, the infants put on weight in a regular manner, but with one exception the Wassermann reaction remained positive.

Preventive Treatment.

Mr. Milian divided his treatment into that given before marriage, after marriage, during pregnancy, and after pregnancy. He referred to the social questions involved, the question of the forbidding of marriage to infected individuals, and the examination of suspected persons. After marriage he emphasised that the best prophylaxis of congenital syphilis was the treatment of the woman before conception, and if pregnancy occurred, energetic treatment along accepted lines must be adopted at once. Even if the wife appears healthy and gives no indication of infection by a syphilitic husband, she should nevertheless be treated during pregnancy.

Subsequent speakers dealt with the question of professional secrecy where one parent is infected unknown to the other, to the fact that in a pregnant woman, undoubtedly infected with syphilis, the Wassermann reaction may be negative, and to the importance of widespread education on the whole question of venereal disease.

Reviews and Notices of Books.

NEUROLOGICAL FRAGMENTS.

By J. HUGHLINGS JACKSON, M.D., F.R.S., F.R.C.P. With Biographical Memoir by JAMES TAYLOR, M.D., F.R.C.P., and including the "Recollections" of the late Sir Jonathan Hutchinson and the late Dr. Charles Mercier. London: Humphrey Milford, Oxford University Press. 1925. Pp. 227. 12*s.* 6*d.*

To a younger generation of neurologists to whom Hughlings Jackson can only be a name, mentioned though it be with respect and affection by their seniors, this volume of reprinted Neurological Fragments will serve to indicate some of the grounds on which he is justly regarded as the pioneer of scientific neurology in England. The Fragments have been familiar to all those who learned from Jackson, and it is amazing how on a re-reading they still inform. They contain little that stands in need of modification. When a Victorian play is staged again to-day the critics are fond of pointing out how it "dates"; there is practically nothing in the Fragments that "dates," if by that is signified their containing points of view from which neurology has moved away. On the contrary, the principles they enunciate are in need of still further application.

It is pleasant, too, to have herein collected Dr. James Taylor's Memoir and Sir Jonathan Hutchinson's and Dr. Charles Mercier's Recollections. The hero-worshipper can never hear too much of his hero. Reading these intimate reminiscences, he will see again in his mind's eye the figure, and hear the soft accents, of the man who found English neurology insecure and shaky, and left it an edifice of marble.

OPHTHALMIC PLASTIC SURGERY.

Newer Methods of Ophthalmic Plastic Surgery. By EDMUND B. SPAETH, M.D., F.A.C.S., Chief, Eye Clinic, Walter Reed U.S. Army General Hospital, Washington. Philadelphia: P. Blakiston's Son and Co. 1925. With 168 illustrations. Pp. 258.

THIS volume embodies a good deal of experience in the treatment of facial deformities involving the eyelids, which were so painfully common in the war hospitals of recent years and are not unknown in civil life. This book was planned, we are told, to serve the general ophthalmologist in his every-day practice. It is, however, the reverse of elementary. The ordinary text-book methods of dealing with entropion, ectropion, ptosis, &c., are not given, only bare mention of them being made. The bulk of the text is devoted to those newer methods of plastic surgery to which so great an impetus was given by the war. Esser's and Gillies's methods of applying skin grafts, hair-bearing grafts for the restoration of lid margins, cartilage grafts for the restoration of the orbital floor, fascia lata and mucous membrane grafts, various forms of pedicle grafts for contracted sockets and for the reconstruction of either lid, these are samples of the subjects with which this book deals. The illustrations are copious and clear, but the text not always sufficiently explicit. Many of these procedures are difficult to perform and almost impossible fully to understand solely from explanations read in a book. The prudent surgeon, however, will not confine himself to a study of books as a preparation for this sort of work. In conjunction with practical experience this volume is calculated to be of great assistance to him.

A matter of some importance is that the author is decidedly opposed to the employment of paraffin injections in ophthalmic plastic surgery. The use of different substances to provide a movable stump after enucleation is discussed. The method preferred is employment of a glass ball in Tenon's capsule with careful suturing of the muscles. Dr. Spaeth

has had but two failures in a series of 28 cases. He adds, however, a piece of information which will be new to many and ought to be known: "The life of a glass Mules's sphere in the orbit is between 20 and 25 years before the glass becomes eroded and breaks down." The work is completed by an appendix consisting of a classified bibliography in which the references which the author has selected as being most useful are given under various headings.

DISEASES OF THE HEART.

Fourth edition. By Sir JAMES MACKENZIE, F.R.S., M.D., F.R.C.P., Director, St. Andrews Institute for Clinical Research; Consulting Physician to the London Hospital: Consulting Physician to the King in Scotland. London: Humphrey Milford, Oxford University Press. 1925. Pp. 496. 30s.

Sir James Mackenzie completed the fourth edition of his well-known text-book on diseases of the heart shortly before his death. The previous edition appeared in 1913, and in the intervening years the book has been reprinted with only a few minor alterations in the text. Largely as the result of the work of himself and his colleagues at the St. Andrews Institute for Clinical Research, the author felt that the time had now come to reconsider the whole conception of heart disease, and decided to incorporate his present view in a new edition of his previous work. In his later years Sir James Mackenzie had become firmly convinced that research in medicine, and especially in cardiology, had been diverted from the line most likely to lead to real progress, and was pursuing by-paths which resulted in the accumulation of a mass of facts that tended to confuse rather than to elucidate the central issue—namely, the mechanism of production of heart failure. He set himself, therefore, to seek out the fundamental conditions underlying ill-health and to formulate certain general laws based on these findings. He clearly states that the views put forward are not to be regarded as final, but merely as working hypotheses which will serve as a guide for future research.

In the opening chapters he discusses at length the mode of production of symptoms, and enunciates his theories of the principle of the reflex arc and the law of fluctuation in living tissues. The present edition, therefore, while retaining the essential features of its predecessor, notably the carefully considered opinions culled from the author's wide clinical experience as well as the illuminating account of his own epoch-making researches on the cardiac irregularities, contains much new matter of a more philosophical nature. The appearance of this new edition is a fitting monument to the remarkable energy which enabled its author to find time to carry out his scientific observations whilst engaged in a busy general practice, and even during his long illness to persist to the very end in his endeavour to advance medical knowledge.

SPIROMETRY.

Vital Capacity of the Lungs. By J. A. MYERS, M.S., Ph.D., M.D., Assistant Professor of Preventive Medicine and Public Health, Medical and Graduate Schools, University of Minnesota. With an introduction by S. MARX WHITE, B.S., M.D., F.A.C.P. London: Baillière, Tindall and Cox; Baltimore: The Williams and Watkins Company. 1925. Pp. 140. 16s. 6d.

THE author of this monograph on vital capacity claims to be on his guard against too enthusiastic an attitude to this subject, and yet he says: "The time is at hand when all persons should know their actual vital lung capacities, just as they should know their actual heights and weights," and goes on to suggest the instalment of spirometers in public places, very much like the familiar weighing machines. Apart from this lapse the book does succeed in giving a good and balanced account of vital capacity in its historical relations and in connexion with health and efficiency, and of its variations in disease. The name of Dreyer is associated with vital capacity in regard to physical standards and a good account of his work is given. Here it seems that there is a definite field for vital capacity estimations, but its use in diseases of the respiratory and cardiac systems seems to be very limited. It is rather surprising to find the statement that "probably the only help we receive from it is in differentiating pneumonia from certain other acute diseases" in a book whose preface claims that the vital capacity test is regarded by most clinicians as a "valuable aid in diagnosis, prognosis, and the guidance of treatment of certain diseases of the heart and lungs." The former statement appears to be nearer the truth. An extensive bibliography and numerous tables will prove useful to those interested in this subject, but even allowing for the large number of tables the price seems excessive.

THE WAR HORSE.

Official History of the War: Veterinary Services. Edited by Maj.-Gen. Sir LAYTON J. BLENKINSOP, K.C.B., D.S.O., M.R.C.V.S., Colonel-Commandant, Royal Army Veterinary Corps; and Lieut.-Col. J. W. RAINEY, C.B.E., M.R.C.V.S. London: H.M. Stationery Office. 1925. Pp. 782. £1 1s.

EACH special department of the army has been allowed to publish officially its own account of the work done during the war; that of the Royal Army Veterinary Corps has now been issued. Veterinary science has advanced to such an extent during the past few years, and now has so many specialised branches, that it was necessary to entrust the compilation of the work to those who had specially studied the individual divisions, and the editorial work, owing to limited space, must have been difficult. It has been done so well that this volume will remain a useful work of reference and as a monument to the wonderful work of the Royal Army Veterinary Corps. The varieties of animals and the varied conditions under which they had to be kept and fed gave those in authority in the R.A.V.C. an infinite number of opportunities for exercising their ingenuity, and when it is considered that more than 75 per cent. of officers and men engaged in the veterinary care and treatment of the animals were civilians newly apprenticed to military methods, the results obtained were little short of marvellous. The book begins with a chapter on the preparations for war and mobilisation, and goes on to describe what was done on each of the numerous fronts for the welfare of the animals. No part of the world where the British forces were engaged is omitted, and the book shows clearly the difficulties which were overcome in the management of the healthy and sick horses in the extremes of heat and cold. All who served in the war, especially those who had animals under their charge, will find this book exceptionally interesting and valuable.

ROYAL DENTAL HOSPITAL OF LONDON.

Annual Report for 1924. Edited by A. T. PITTS, D.S.O., L.R.C.P., M.R.C.S., L.D.S. London: John Bale, Sons and Danielsson, Ltd. Pp. 154. 7s. 6d.

THE Royal Dental Hospital's annual reports were originally issued under the joint editorship of Sir Frank Colyer and Mr. F. Coleman in 1910, but lapsed during the war and were only revived last year. No hospital or school news is now included, and the reports are in book form and contain original articles and case records only. In the present volume Mr. J. G. Turner gives a description of the minute anatomy of the roots of teeth. He regards the apical segment of the tooth and the dentinal canaliculi as the danger areas in root canal treatment, and rightly condemns so-called immediate root-filling after extirpating the tooth pulp. A certain time is required for the separation of living from dead tissues, and infected tissue is pent up if the root canal is immediately occluded.

Mr. Turner also describes two odontomes, one of which, a suppurating epithelial odontome (multilocular cystic disease of the jaw), was removed intact by the intra-oral route, showing that even large tumours may often be removed in this way and a disfiguring external scar avoided. Mr. W. H. Dolamore gives notes of three patients admitted to a general hospital for persistent hæmorrhage from the gums. In one of these patients, a hæmophilic boy, the hæmorrhage was arrested by means of protagulin; in the other two the bleeding occurred from the gums around the teeth, and the teeth involved were removed and the liberated gum margins approximated with suture with satisfactory results. Mr. E. F. Ackery and Mr. A. T. Pitts record six cases of acute stomatitis occurring in patients suffering from blood diseases, all of whom died. Their serious condition was recognised on their attendance at the dental hospital, and in every case they were recommended for admission to a general hospital. Mr. H. Stobie contributes a lucid and thoughtful paper on the diagnosis and treatment of some of the common tumours of the jaws. He lays stress on the value of radiology as an aid in determining the surgical technique to employ, and we are glad to see that the time-honoured text-book sign of eggshell crackling in connexion with the diagnosis of dental cysts has been omitted and resiliency (a more exact and expressive term) substituted. The use of a metal probe or, better still, fuse wire (as suggested by Mr. E. D. Davis) for passing into a cavity prior to an X ray examination might have been mentioned. If the latter be used it coils up within the cavity and serves to delineate its size and extent. We cannot agree that the swelling of cysts of the mandible is always limited to the outer alveolar plate, and the statement that "glandular enlargement and fixation" are early signs of an epithelioma needs qualification. Mr. Pitts writes on post-normal occlusion, a type of mal-occlusion that is receiving a great deal of attention from orthodontists at the present time. This condition appears to be more common than formerly, and it is difficult to say whether this is due to rapid evolutionary changes which are taking place, to failure in the past to recognise the condition, or to its confusion with superior protrusion. Mr. Pitts also discusses the pathology of the central myeloid sarcoma, the myeloid epulis, and the fibrous epulis, and questions whether the last is related to the other two tumours. Mr. D. M. Shaw discusses the value of "anatomical articulation," and endeavours to show that extensive contact of the teeth in all positions of occlusion does not exist in the normal dentition nor after marked attrition has taken place, and that it is not desirable that it should exist. His experiments show that different types of articulators elicit varying results of the mandibular excursions, and he considers that more care should be taken in observing the actual movements of the jaw, so that their effect can be reproduced in constructing artificial dentures.

The reports are a valuable and attractive contribution to oral and dental surgery.

CLINICAL BIOCHEMISTRY.

By IVAN MAXWELL, M.D., M.Sc., Lecturer in Physiology and Biochemistry, University of Melbourne. Melbourne: W. Ramsay. 1925. Pp. 124. 12*s.* 6*d.*

THIS volume is the companion to Osborne and Young's "Practical Biochemistry," of which the second edition was reviewed in THE LANCET of Sept. 20th, 1924. It is intended to publish a third member of this series, and the author points out that any omissions will be included therein. Osborne and Young's small book undoubtedly started a new era in practical text-books of biochemistry, and it is to be hoped that the companion volumes will maintain this high standard. The present issue deals with the clinical aspect of practical biochemistry; like the first part, it is interleaved. Unfortunately, Dr. Maxwell's book does not show the careful preparation of the companion volume. The copy sent for review has many misprints which have been corrected in ink. We trust that all the copies have been so corrected, since some of the mistakes might lead to serious errors. The usual subjects are dealt with—renal efficiency, glycosuria, gastric analysis, and the tests of functional capacity of the various organs. The descriptions are rather sketchy in parts; the author is perhaps ill-advised in including a chapter on the enumeration of red blood corpuscles, &c., at the expense of the more purely chemical analysis of the blood. Clinical hæmatology is not a biochemical subject, and the space allotted could well have been used to describe methods of air analysis and respiration, a branch not even mentioned in the book. The method of determining the blood-urea is described, but the non-protein nitrogen of the blood is not even mentioned. In the method chosen for the estimation of urinary diastase no account is taken of hydrogen-ion concentration. Insulin is simply mentioned by name, and no account of the various clinical biochemical tests associated with insulin therapy is given. On the other hand, the book has certain excellent qualities. The general arrangement is very good, and the descriptions are all quite clear. Undoubtedly the best chapter is that upon hepatic efficiency; here an admirable account of recent work is given, and in particular of the Van den Bergh reaction. If in the third volume of this series are included exact details of quantitative analysis, the whole should prove of great value. Dr. Maxwell's contribution is in itself a useful addition to biochemical literature.

LA PRATIQUE CHIRURGICALE ILLUSTRÉE.

By VICTOR PAUCHET. Vol. VII. Paris: Gaston Doin. 1925. Pp. 250. Fr.30.

THE English translations of the six earlier volumes of this work have been reviewed in our columns. This one is compiled on the same lines. The non-operative treatment of fractures of the upper extremity forms an interesting section and is well worth perusal, though some of the apparatus used appears a little heavy. The removal of cancer of the thyroid is depicted by a series of drawings made from a difficult and extensive case. A considerable part of the book is concerned with gastric surgery. Most interesting is the account of carcinoma of the stomach. The author prefers a one-stage excision, but says that sometimes he is forced to a two-stage operation. There is some discrepancy in the statements on this question; on one page the two-stage operation is said to have many advantages, whilst on another all patients operated upon in this manner are said to be dead within a year. The author still employs the Murphy button in some gastric operations. An ingenious technique for staphylorrhaphy is described by Victor Veau. Virenque brings forward a procedure for the removal of facial wrinkles not likely to become popular in this country. The illustrations are unusually clear and suggest a marvellous agility in the surgeon who performed the operations from which they were drawn.

OPERATIVE CYSTOSCOPY.

By E. CANNY RYALL, F.R.C.S., Founder of, and Senior Surgeon to, All Saints' Hospital for Genito-urinary Diseases. London: Henry Kimpton. 1925. 70*s.*

THIS is a superb atlas of operating cystoscopy comprising 115 plates, nearly every one of which has six coloured cystoscopic views. Every conceivable phase of intravesical or urethral manipulation is described. The author must have had an immense experience to have obtained views of so many different conditions, and they have been portrayed by Mr. Thornton Shiells with a faithfulness to nature unsurpassed by any cystoscopic atlas emanating from abroad. Mr. Ryall has extended operative methods through the cystoscope to what must surely be near the limit and has modified most of the usual instruments to render

his methods more easy of execution. A unique feature is that the descriptions appear in German and French as well as English. There is an all too short account of methods at the beginning of the book, which renders the reader eager for more information as to what are the end-results of intravesical operations and in what percentage of cases such treatment is suitable. The author must have made a great number of observations and have case-histories at his disposal bearing on these questions. We hope he may in the future be induced to commit them to paper.

THE MAYO CLINIC.

Collected Papers of the Mayo Clinic and the Mayo Foundation. Edited by Mrs. M. H. MELLISH. Vol. XVI. 1924 (published May, 1925). London and Philadelphia: W. B. Saunders Company, Ltd. Illustrated. Pp. 1331. 60*s*.

THE Mayo Clinic and the Mayo Foundation have, in this sixteenth issue of their annual volume, maintained their usual standard of interest. The book is a bulky one and contains 222 papers or abstracts of papers from the pens of 160 contributors, many of whom have achieved world-wide reputations. As is inevitable, some of the contributions are of ephemeral interest and a few were frankly not worth reprinting, but, taken as a whole, the volume gives an excellent view of the march of surgery during 1924. In general, the papers are brief, so that the collection of articles on a subject such as gastric and duodenal ulcer forms an interesting symposium within a reasonable space. Another group of papers of particular interest is that concerning the physiology and diseases of the gall-bladder. The systematic recording of cases has evidently been brought to a fine art by the Mayo Clinic, and the results of this are to be seen in several articles such as that on diverticulitis of the colon, in which are summed up observations on this condition made during the last 17 years. A large number of addresses of a more general nature appear under the names of the founders of the Clinic. The 11 pages occupied by W. T. Mayo's lecture on the Physiology and Pathology of the Blood in Relation to Surgery are packed with learning and wisdom, and demonstrate that the work of the Clinic is not likely to be marred by any narrowness of outlook. The volume appears to have been very well edited, and rare errors, such as a reference to "hydro-arthritis or glutton's joints," on p. 604, give no annoyance.

JOURNALS.

BRITISH JOURNAL OF OPHTHALMOLOGY, September–October, 1925.—To the September issue H. M. Traquair contributes a paper on Acute Retrobulbar Neuritis affecting the Optic Chiasma and Tract. This is a little-known condition. Attention was first drawn to it in 1912 by Roenne who tabulated ten cases, five of them personally observed. In the present paper the author gives notes of four new cases, one of them already published by himself in a series of papers in the first volume of the *British Journal of Ophthalmology* (1917) under the title Bitemporal Hemianopia, and at that time believed by him to be caused by abscess of the antrum. He now regards this particular case as one of a class which Roenne describes as "inflammatory or degenerative conditions which have their starting-point in the chiasma or tract, and form a group of certainly existing but little known primary lesions in this part of the visual path." He suggests that if exhaustive analysis of the field defects in cases of retrobulbar neuritis were more commonly practised cases of this type would be more frequently found than they are at present. As in retrobulbar neuritis of the usual type, the prognosis as regards recovery of sight appears to be excellent, but should be guarded in respect of later development of nervous disease.—D. J. Wood gives an account of two cases of non-traumatic cysts of the anterior chamber and R. E. Wright a cyst of the iris. These two notes describe a condition which is decidedly rare and the pathology of which is not completely understood. This number contains a condensed report of the proceedings of the convention of English-speaking Ophthalmological Societies held in London in July.——The October number opens with a biography of Sir William Bowman by R. R. James. The value of a paper by Miss Ida Mann on the Development of the Human Iris, which occupies the chief part of the issue, is much enhanced by copious and clear figures. Among other papers is one by H. Hartridge on Helmholtz's Theory of Accommodation. This should be read in connexion with an abstract by C. Goulden (in the same number) of E. F. Fincham's paper, the Changes in the Form of the Crystalline Lens in Accommodation.[1] By means of careful measurements taken with the help of the corneal microscope and slit-lamp Fincham finds that the general truth of the theory of Helmholtz is confirmed. The increase in the curvature of the lens surface, however, does not in all cases correspond to the increase in accommodation. The factor accounting for these variations Fincham finds in the combination of the elastic nature and the varying thickness of the lens capsule. H. Hartridge, in his paper, supports Fincham's views upholding the theory of Helmholtz in opposition to that of Tscherning.

INTERNATIONAL MALARIA CONGRESS.

THE First International Malaria Congress was held in Rome in the Exhibition Palace from Oct. 3rd to 6th. The various delegates, some representing governments or societies, were welcomed by Senator Ettore Marchiafava, the President, accompanied by various members of the executive.

Signor H. E. Benito Mussolini, Prime Minister of Italy, who officially opened the Congress, stated that the Italian Government had a great interest in this gathering in Rome. He referred to the epoch-making researches, which had led to our full knowledge of malaria, as a striking example of international coöperation, but admitted that the practical problems of prevention remained.

Senator Marchiafava, in his address to the Assembly, showed how the old Latin views on malaria approached and harmonised with modern concepts.

Biology of Malaria Parasites.

Prof. Marchoux (Pasteur Institute, Paris), who brought the greetings of France and her doctors, read a paper at the first meeting of the Congress on Unity or Plurality of the Parasites, dealing in turn with the arguments provided by the two schools of thought. The former, led by Laveran, had been impressed with the differences found in the parasites seen in the blood of Europeans infected in the tropics, containing small rings and crescents when abroad, but when they relapsed at home, showing only the large amœboid forms such as were regularly found in the blood of autochthones. The pluralists, including most malariologists, based their views largely on experimental observations, and interpreted the above findings in a different manner. In the mosquito the zygotes were different, the time of evolution varied, and if fed on carriers of one form, the same type was invariably transmitted to healthy subjects; similarly, injection of infected blood, now repeated thousands of times, followed the same rule. Culture in vitro had so far revealed specificity.

In the discussion which followed Prof. P. Muhlens (Hamburg) said that his own inoculation work, in general paralysis, confirmed an immutability in the transmission of all types, whatever the period of the year, and even in Germany in winter 70 transmissions of benign tertian had been made without change.

Prof. Swellengrebel (Amsterdam) referred to experiments he had conducted in Sumatra with *A. sinensis* and *A. ludlowi*, demonstrating a difficulty which might arise in cases of mixed infection and

[1] Trans. Optical Society, 1924–25, vol. xxvi., No. 5.

might lead to the erroneous view that a transformation of type had occurred.

Malaria Therapy in Psychiatry.

Prof. Auguste Marie (Paris) read a paper on this subject, in which he dealt with the thermic and visceral reactions, the precautions to be taken as to choice of case and the necessary blood controls when using malaria, and referred to the use of quinine and stovarsal—the former seeming to produce destruction of young asexual forms in the blood, whereas the latter rapidly affected the adult schizonts and the gametes. The results published in many countries, he said, showed that many thousands of cases had been treated and followed up, and whilst general paralysis of the insane was not cured by this form of therapy, it was proved that stabilisation took place with such persistent remissions that readaptation to family life and to social responsibilities were possible.

Colonel S. P. James (Great Britain) said that in England it had been found by experience that the relatives of patients objected to the direct inoculation of blood from paralytics, knowing that such were syphilitic, and that they feared what were called "neurotropic strains" of the virus. Also, by the use of the blood method the risk of injecting two kinds of parasites at the same time could never be completely eliminated. For these reasons it had been decided to inoculate only by means of mosquitoes; stocks of infected anopheles were kept for the purpose and distributed to those who needed them. The results by the natural method had been carefully observed in over 100 cases and were held to be better than when the blood method was employed.

Prof. M. Ghiron (Rome) read a communication on certain points of interest revealed during inoculations of general paralytics with malaria. Several months after the injection of subtertian he had reinjected some cases with benign tertian and found that a marked resistance had developed; not only was the hæmoclasis absent, as compared with controls which had not previously received subtertian, but there was no febrile reaction.

Anopheles and Malaria.

Dr. Massimo Sella gave a report on a new method for mosquito control in Italy by the acclimatisation of the larvi-phagous fish *Gambusia holbrooki grd.* He said that *complete* control of mosquito breeding could be obtained, even in drainage canals, provided there was thorough removal of surface vegetation; also, that great saving had been effected as petroleum was no longer required in some regions. Dr. Sella developed the theme of more intensive cultivation and distribution, and the need of special organisations, legal and financial support in this new method.

Dr. Etienne Sergent advocated all practical means of controlling malaria, from flight from the danger to disciplined control of those living in infected zones. He valued prophylactic quinine to keep people at their employment; he placed more stress on treatment and cure by quinine as a direct measure, and on all indirect measures based on propaganda work, first and chiefly amongst the children, and constant illumination of public opinion.

Colonel James said that the Malaria Commission of the League of Nations Health Committee had recommended: (1) the treatment of all cases as the first problem; (2) that it was not wise to use quinine as a prophylactic; (3) the killing of adult anopheles in houses; (4) that antilarval measures must have a very secondary place.

Larvicides.

Dr. M. A. Barber (U.S. Public Health Service) reviewed his work on Paris Green as a Larvicide. This arsenical poison was now widely used through the United States, and had been successfully employed in Palestine and Italy. It might be used through the entire season without harmful effects, had not been shown to affect animals or fish, and was employed diluted with 100 parts of dust as a suitable vehicle for wind conveyance over marshy areas covered with dense vegetation. Being almost insoluble in water, the light particles were held up on the surface-tension layer, and remained long enough to poison all surface-feeding larvæ.

Dr. L. W. Hackett (Rockefeller Foundation, Italy) issued a warning as to the varying qualities of Paris or Schweinfürth green on the market; some, he said, were merely aniline products. The U.S. Government had introduced a legal standard that Paris green must contain 50 per cent. of arsenious oxide.

The Alkaloids of Cinchona and Malarial Therapy.

Dr. A. Kaufmann (Switzerland), in a paper on the Synthesis of Cinchona Alkaloids, said that research was now so far advanced that the coöperation of the pharmacologist and clinician was needed by the chemist to test the pharmacodynamics of every product.

Colonel James and Dr. H. H. Dale, F.R.S., made a communication on the Relative Therapeutic Efficacy of Quinine, Quinidine and Cinchonine in Malaria. New tests had been made, using pure products, to determine the immediate therapeutic effect—i.e., the time required for complete disappearance of parasites from the blood. Results so far obtained showed that the curative effects of the three alkaloids was the same for all forms of malaria; in small doses cinchonine was slightly less effective than the others; there was no difference in toxicity save that quinidine had a more marked depressant action on the heart muscle.

Resolution.

An important communication was read by Dr. Fernando Perez, Argentine Minister in Italy, who proposed that in order to complete and consolidate the work of the Congress a permanent International Malaria Institute should be created in Rome with the scientific and financial help of all nations.

The President replied that the Italian Government viewed with favour the creation of such an organisation; it had great sympathy with the project, and was ready to give its moral and material support to this new institution.

The proposition was greeted with acclamation, and was subsequently adopted by the Council of the Congress, who formally expressed the desire that the Italian Government should make itself the mouthpiece of this wish to the Governments concerned in order to enable the project to be realised.

New Inventions.

INTESTINAL CLAMP.

IN performing resection of the intestine, it is advisable to have a powerful clamp to crush the bowel before it is divided. The illustration shows a clamp which I have been using for the past 12 years,

and which has been found most satisfactory in practice. The features of the clamp are: (1) its simplicity, (2) its power, (3) the area of bowel crushed is sufficiently wide to allow of the application of two ligatures between which the bowel is divided with a cautery. The clamp has been made for me by Messrs. Down Bros., Ltd., who have carried out my suggestion in their customary efficient manner.

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London, W. M.Ch. Camb., F.R.C.S. Eng.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 21, 1925.

THE SCHOOL MEDICAL SERVICE.

THE compulsory Education Acts have had two great effects. They have provided for every child a certain amount of learning at the price of reduced parental responsibility and freedom, and they have placed that child partially in the care of the State at a critical stage of physical development. The educational authorities aim at increasing the mental equipment of the pupils: the School Medical Service tries to increase their health and remove any causes of disease which may arise in the course of schooling. Whilst education may or may not be invariably beneficial, a betterment of children's health is wholly desirable. There is but one danger in a little physical betterment, and that is that it may be regarded as sufficient. At a small sacrifice of individualism there has been forged against disease a weapon whose power is incalculable, and there must be no resting on past achievements until that weapon is given full play. Sir GEORGE NEWMAN'S report to the Board of Education on the Health of the School Child,[1] shows a proper appreciation of the admirable work that has been done in the past and reflects the still more proper discontent which animates the School Medical Service to-day. It contains lessons which must be learnt by the public at large and by public authorities in particular. The magnitude of the work is shown by the fact that in 1924 the average number of children attending schools under Local Education Authorities exceeded five million. The requirements of the regulations were fully met by the 1884 part-time or whole-time medical officers employed, and 2,420,000 children were medically inspected—that is to say, 48·6 per cent. of those who attended school during the year were examined. Of these about 700,000 were seen on account of some special illness or defect; of the remaining 1,660,000 who came up for routine examination, 19·8 per cent. were found to be suffering from some more or less serious physical defect which needed treatment then and there. In addition a considerable group, amounting to some 108,000 children, were found to suffer from physical or mental defects such as blindness, deafness, epilepsy, feeble-mindedness, tuberculosis, and crippling. For these children there were 544 special schools and sanatoriums accommodating over 43,000.

It has sometimes been objected that the routine work of inspection and compiling statistics is a waste of time. Sir GEORGE NEWMAN points out, however, that the routine work involved in the medical inspection of *all* children, healthy or sick, at certain prescribed stages of their school life is one of the fundamental principles of the whole enterprise. Nothing but chaos and waste, he believes, would ensue if this inquest of the nation's children were drifted through, in haphazard fashion, without record or report. The report before us is sufficient evidence of its own usefulness. Nor, to our readers at least, will any criticism of the time and labour and expense devoted to research need an answer, though Sir GEORGE NEWMAN supplies cogent ones. An example of the kind of research being carried on is the special investigation into the health of the rural child which was made in the spring of this year. This revealed much that needs reform in the incidentals of rural education and many regrettable results of poverty amongst the children of labourers and those in casual employment. Although it was found that there is no widespread decadence, and that on the whole there is probably improvement, it is clear that the remarkable progress in physical well-being which has taken place in the towns is not shared equally in the rural districts, and there is a substantial degree of impairment amongst rural children, especially at the ages of 6 to 12 years. On the whole, the country children are still ahead of the town children, but in some areas they are falling behind. Sir GEORGE NEWMAN'S general conclusion is that although every year there appears to be the same tide of disease, the same burden of defect requiring treatment, there is undoubtedly a great and almost universal improvement in the *degree* of disease among children of school age. The death-rate at these ages is declining, and the gross forms of disease are steadily disappearing. "Medical care," it is stated, "has brought about an immense improvement in the discovery and practical treatment of the defective child, and thus has mended the particular child and stopped the evil effects of disease. But concurrently there has been little or no change in the causes and origin of disease in school-children . . . The young child comes to school already diseased. In 1924 38 per cent. of the entrants in London were found to require medical treatment . . . This clearly is home-produced and not school-produced. But, further, there is evidence that the physique of a number of children degenerates *while they are at school*." In a recent summary of school medical work [2] we drew attention to the deplorable hygienic conditions to be found in some schools. Lack of facilities for washing, inadequate lavatory equipment, and general uncleanliness were condemned as prejudicial to health and stultifying of that instruction in personal hygiene which should be an essential part of school medical education. We drew attention to the fact that in many schools children remained all day in the wet clothes and boots in which they arrived, and to the meagre floor space allotted to schools by regulations unchanged since 1870. It is satisfactory to find most of these abuses the subject of earnest recommendation to local authorities, though it is regrettable that such recommendation should still be needed.

There is an increasing desire on the part of parents to take advantage of treatment offered; but there remains a considerable leakage between the number of children requiring treatment and those who actually get it. More, it is suggested, might be done by many authorities to follow up, to make treatment available, and to prescribe the duties of their medical staff in such a way as to make it possible for them to concentrate on the untreated child. In many areas the personnel of the School Medical Service is too small to conduct anything more than the barest routine. The number of dentists is wholly insufficient. Of 1,766,000 children inspected by them in 1924, 67 per cent. were found in need of immediate treatment; but only 55 per cent. of these received it. It is stated that to establish a complete dental service for all school-children the number of dentists employed would require, at the lowest estimate, to be trebled.

[1] The Health of the School Child. Annual Report of the Chief Medical Officer to the Board of Education for the Year 1924. London: H.M. Stationery Office. 1925. 1*s.* 9*d.*

[2] THE LANCET, 1924, i., 44.

The whole trend of medicine to-day is towards treating the underlying causes of disease rather than the symptoms. Certain established causes such as focal sepsis act early and are susceptible to rational treatment in infancy and childhood. From the barest commercial point of view, then, it ought to be possible to devote more than £1,220,000 a year to the work of the School Medical Service.

CONGENITAL SYPHILIS.

PERHAPS one of the things which most attracts the notice of a British visitor to the children's hospitals of Paris is the frequency with which the diagnosis of congenital syphilis is made on what appear to be insufficient grounds. The recent conference on congenital syphilis in Paris, of which we give an account elsewhere in this issue (p. 1071), also brings out this striking difference between the points of view of two sets of pædiatricians. The list of diseases attributed to latent congenital syphilis includes such affections as chorea, mitral stenosis, exophthalmic goitre, and infantile paralysis, and greatly exceeds both in quality and quantity the result of experience in this country. It may be that congenital syphilis is a much more common disease in France than it is in this country, and there are certain statistics to bear out this contention. Prof. MARFAN'S figures, collected, it is true, in a sort of Poor-law institution where many illegitimate children are presumably to be found, go to show that 16 per cent. of all infants are definitely infected, while about 30 per cent. are probably so. In this country, on the other hand, figures collected by Dr. G. F. STILL show that not more than 1 per cent. of all out-patients in a big children's department are suffering from congenital syphilis, as judged on clinical grounds alone, and he further quotes the results of the Wassermann reaction in the blood of young infants in an investigation in the East End of London where only 4 out of 677 cases were positive. Even this striking statistical difference will not, however, account for many of the views held by French authorities. Prof. MARFAN'S teaching on rickets, for example, is to the effect that the large majority of cases are due to congenital syphilis, and the difficulty arising with regard to negative Wassermann reactions in many of these cases of so-called masked congenital syphilis is met by the statement that the biliary pigment in the blood of new-born babies interferes with the hæmolysis involved in the test. Another somewhat dangerous point of view brought forward in support of the latent congenital syphilis theory is the fact that many of these cases respond to antisyphilitic treatment. This post hoc line of argument may be particularly misleading in dealing with a vague and heterogeneous group of chronic infections in which almost any therapeutic measure may at times secure a striking success.

On the subject of the treatment of congenital syphilis there is in general more agreement, although in the course of the discussion on this aspect of the problem there was a distinct tendency to give first position to the intravenous use of arsenical preparations and to place mercury as a rather poor third in the list—arsenic, bismuth, mercury. In this respect a recent publication of the results of the treatment of congenital syphilis in this country by Mr. JOHN ADAMS is particularly interesting.[1] He has treated since 1917 164 consecutive cases in young babies at the Thavies Inn Clinic for pregnant women suffering from venereal disease. The mother's blood is examined on admission and treatment instituted at once if the pregnancy has not yet terminated. As soon as the child is born a specimen of blood is taken from the umbilical cord and also from the mother and sent for a Wassermann reaction to be performed. It was found that about 3 per cent. of pregnant women, although undoubtedly suffering from syphilis, gave a negative Wassermann reaction, and of the babies born of syphilitic mothers this reaction was positive in 51 out of 152 cases. The treatment adopted has been the intramuscular injection of galyl in glucose, commencing on the first day with 1·25 cg. and working up to 3·5 cg. in fortnightly doses. Altogether nine doses are given, the second one at the end of the first week. Combined with this are intramuscular injections of mercury in doses of $\frac{1}{8}$ gr. working up to $\frac{1}{3}$ gr. at fortnightly intervals and grey powder by the mouth. At the ninth and twelfth months courses of three injections of 3–5 cg. of galyl are given, and 1 gr. of grey powder daily for a month and repeated at the eighteenth month. Further treatment is governed by the progress of the case. During the last five years not one baby born alive has died in the hospital, and there have been altogether only four deaths in the whole period of eight years, while in the last few years there has been no still-born fœtus in the clinic. The effect of the treatment is to convert a positive Wassermann reaction in the infant into a negative one in an average period of 10 to 11 weeks; this has occurred in every case, a striking contrast to continental experience and to the reports of other workers in this country. Babies thus treated grow up into strong, healthy children with a mortality-rate actually below the normal for non-syphilitic children. Mr. ADAMS utters a word of warning against puncturing the superior longitudinal sinus for obtaining blood, and describes a very satisfactory method for getting it from the heel. His experience is that congenital syphilis, like syphilis in general, is becoming less frequent in this country.

[1] Ante-natal and Post-natal Syphilis. By John Adams, F.R.C.S. London: John Murray. 1925. For private circulation. See also THE LANCET, 1920, ii., 990, 999.

CIVILISATION AND BLOOD PRESSURE.

HIGH blood pressure is a subject of wide and perennial interest—an interest justified by the obscurity which still surrounds the condition. Speaking before the Academy of Medicine of Toronto on Oct. 12th, Lord DAWSON of PENN referred to high blood pressure as an apparently increasing result of modern civilisation. Apart from nephritis, he considers the blame should fall on faulty metabolism, on anxiety, and perhaps on inborn traits. About the age of 46 a jump in blood pressure from 120 to 140 is not uncommon, and although raised pressure is not rare in thin people, the man who becomes too fat in middle life is most open to suspicion. At this age a general loss of flexibility may begin to show itself, and what Lord DAWSON aptly called "a certain fibrositis of the mentality." How far a rise of arterial tension depends at first on circumstances is illustrated by a case which he cited of a barrister in whom the blood pressure was in two successive years reduced by the annual holiday from 140 to 120, but who failed to respond on the third occasion. It is, says Lord DAWSON, the anticipation of work that plays so important a part at certain ages, especially in those who show a general vasomotor excitability and lack of adaptability. That such a predisposition exists was shown in an examination of 1500 students at

the University of California, of whom fully 20 per cent. had high blood pressure. A similar examination was made by Lord DAWSON and others in four English schools, when it was found that 8 per cent. of the 659 children between the ages of 11 and 17 showed too high pressure, though the affected children appeared as healthy as the others. The group in which it occurred was one in which the boys and girls of almost 17 years of age were trying to pass examinations on which much depended, either for themselves or their parents. Many of them had a blood pressure of over 130 and in some it reached 150. Here the influence of anxiety was obvious.

The American view of the importance of a small rise in arterial tension is illustrated by a somewhat popular treatise written by Dr. W. E. SADLER, of Chicago, and entitled "Americanitis."[1] It is clear that in the United States a man with a blood pressure of over 140 is looked at askance. Lord DAWSON does not go as far as to share the view there prevailing; but he states that a youth with this degree of tension should endeavour to find a salaried appointment. Whole families may show an increased blood pressure, and there may be no obvious results because work and surroundings are favourable. A great deal of the world's most important work is, in fact, done by those who suffer from hyperpiesis and it would be easy to exaggerate the alarming nature of small rises; their disastrous sequels have yet to be shown. Twenty years ago persons applying for life assurance policies commonly found themselves heavily loaded on account of the readings of the sphygmomanometer; yet we are informed that many experienced physicians to-day have records of continuous good health in such people, who have endured their high blood pressure without symptoms or obvious ill-effects. It is well known that the outlook is grave in cases with marked elevation of both systolic and diastolic pressure; but the importance of a pressure of 140 mm. in otherwise healthy young people cannot be estimated accurately yet. It often shows a state of mind and body which demands consideration of appropriate environment and work; but until full records have been obtained which clearly show some relation between moderate juvenile high blood pressure and early death, judgment may be reserved, and it seems undesirable to penalise or alarm those in whom such a condition is discovered.

[1] "Americanitis—Blood Pressure and Nerves." By William G. Sadler, M.D., F.A.C.S. New York: The Macmillan Co. 1925.

LEAGUE OF NATIONS: MEMORIAL PRIZES FOR THE STUDY OF MALARIA.—In memory of Dr. Norman Lothian (see THE LANCET, 1925, i., 1159) and Dr. Samuel Darling (ibid., 1925, i., 1320), the two members of the Malaria Commission of the League of Nations who were killed in a motor accident near Beyrouth on May 21st, 1925, while investigating malaria conditions in Syria, the League's Health Committee has decided to create a Lothian Scholarship and a Darling Prize, which will be awarded periodically for the encouragement of malariological study. The Lothian Scholarship, for which a credit has been found in the budget of the Health Organisation of the League, will be awarded by the Malaria Commission to a selected candidate "whose course of study should be in conformity with the general programme of the Malaria Commission," while the Darling Prize (a medal or other reward) will be given to the scientist who "has carried out recent distinguished research work on a subject connected with malaria which comes within the general scope of the Commission's investigations." The funds for the latter foundation will be raised by private subscription.

Annotations.

"Ne quid nimis."

THE DENTAL BOARD.

IN his address at the opening of the ninth session of the Dental Board of the United Kingdom on Nov. 10th Mr. F. D. Acland, the chairman, dealt with three matters of considerable importance to the welfare of the dental profession. With regard to advertising, he said that very considerable progress had been made in carrying out the Board's duty of checking undesirable methods of announcing a dentist's practice. It was not only interesting but gratifying to find how willing practitioners were to conform to the wishes of the Board; the only proviso made was that all dentists should be on the same footing. This, of course, is reasonable, and the Board is endeavouring to ensure that all are treated alike, though naturally it is difficult to enforce exact uniformity and simultaneity of action. Some practitioners, he continued, desired that the Board should lay down hard-and-fast rules to which all should conform. There was much to be said on both sides. In a professional district and in a crowded shopping street, the question arose whether it would be possible to give sufficient definition of the difference in situation of premises as would at the same time afford a clear guide to dentists, and prevent the occurrence of numerous and difficult border-line cases on which the Board would have to make special decisions. Some of the general principles which the Discipline Committee have so far evolved are as follows: (1) Where, as is almost always the case, it is possible to have a brass plate reasonably visible at all hours at the entrance to premises, it is not also necessary to have a further announcement on a fanlight. (2) Where, as is sometimes the case, a projecting sign must be permitted, it is not necessary also to have announcements on the windows. (3) If there is an announcement on the windows, a projecting sign should not be allowed. (4) Windows should not be used to call attention to the extent of a dentist's premises. The Chairman suggested that dentists who received patients in the evenings might use a uniformly coloured plain lamp, either red, or, in districts where some doctors use red lamps, of some other colour, if they desired to distinguish their premises from those of doctors.

Dealing with the Board's scheme for assisting suitable students to qualify, Mr Acland recorded gratification that the scheme now seemed to be established, and was becoming better known amongst schoolmasters and parents. The applications for grants which were considered this autumn were in excess of the help available, with the result that it was possible to make a selection of the most suitable candidates. "There are some," said the Chairman, "who think that the Board is unwise, and is even acting harshly towards those who have to pay for the retention of their names on the Register, by taking steps just now when times are none too easy to add to the number of qualified practitioners. It must be remembered, however, that it will generally be four years before the students who are helped by the Board will qualify, and, further, I am informed that the number of students who are registering this year is certainly not more than those who registered last year, and may even be less. We shall probably be able to assist some 40 or 50 students a year, and if the quality of those assisted is high I believe that much useful work from the national point of view will be done in assisting them."

Dental health propaganda work has made good progress. Organisations of all kinds have shown appreciation of the Board's work. Bodies interested in children, such as the National Union of Teachers and the child welfare organisations; in nursing, such as the College of Nursing and Queen Victoria's Jubilee Institute of Nurses; in industrial workers, such as

the Industrial Welfare Society and Industrial Health Education Council; and in general health, such as the National Association of Insurance Committees, have all been willing to coöperate, and it cannot be doubted that much good has already resulted. It is hoped, continued the Chairman, that Women's Institutes also, through the interest of their National Federation, will soon give their aid, for they are often the best means of approach to those who count most in our villages. The Girl Guide movement is also helping, and the Chairman welcomed particularly the coöperation of the rural community councils. By the help of these and other organisations, and in other ways, the Dental Board has already accomplished more than it ventured to hope for a year ago.

A LILLIPUTIAN GARDEN.

THE list of organisms growing in the National Collection of Type Cultures,[1] of which an account appears on p. 1086, is even more fascinating than a catalogue of garden flowers. Their sources are far afield. There are strains of *Aspergillus fumigatus* isolated from penguins, pigeons, black swans, golden eagles, water hens, flamingoes, and owls; there is one of Metchnikoff's original strains of *Lactobacillus bulgaricus;* there are strains of acid-fast bacilli isolated from guinea-pigs inoculated with butter samples in 1912; there are organisms obtained from a wilted pæony, from a tuberculous terrapin, and from the spleen of a skunk which lived, and presumably died, at a skunk farm in the North of England.

It may be observed that those who take up gardening are first intent upon a show of flowers, but afterwards think nothing of such simple pleasures, but are for ever collecting, classifying, dividing, transplanting, manuring, and improving. Of all gardeners the most skilful is the bacteriologist. To him it is given to revel to the full in "the purest of human pleasures"; but whereas Bacon considered this impossible in an area of less than 30 acres, to-day it can be done (out of the wet) in 30 feet. In a small space collection, classification, division, and tender culture of all known microscopic plants is being pursued with zeal and with profit by men and women who are fortunate indeed in their choice of occupation. And the extent of their efforts may be measured by the fact that at the Lister Institute there are well over two thousand living strains, both good and bad, gathered together under one roof.

HOSPITAL ENDOWMENT BY INSURANCE.

Mr. James E. Kavanagh, a prominent official of a New York insurance company, has recently suggested a new application for the principles of insurance—namely, the endowment of universities, colleges, and hospitals. In a speech delivered in Kansas City and summarised in the pages of the *Agents' Journal and Official Gazette*, he states that the United States contain nearly 800 universities and colleges suffering from lack of financial support, only half the money for their maintenance being found by the students, the remainder being a charge upon public and private generosity. He recommends that the difficulty be removed, or at any rate lightened, by students insuring their lives on the endowment plan in favour of the institutions to which they belong. Alternatively, he suggests that they should be canvassed with a view to initiating some organised scheme under which they take out policies in favour of those institutions, the students paying the yearly premiums. Mr. Kavanagh quotes the example of a Roman Catholic educational institution which in 1900 "took out 100,000 dollars of 20-year endowment assurance on the lives of 20 students (that is, 5000 dollars each)," and by 1920 "had drawn 90,000 dollars matured endowments, 10,000 dollars in two death claims, and 5000 dollars bonus."

The idea that our hospitals, established by ancient benefactors, should now be re-endowed by the organised insurance of their medical students will no doubt be noted by those who, in strenuous competition, direct the financial fortunes of these establishments. No doubt, also, the ingenuity of the insurance companies will be equal to the task of working out details, for, as our contemporary observes, the 100,000 insurance agents in this country will not only be furthering a noble work on behalf of our hospitals and other benevolent institutions, but will also be promoting the interests of themselves and their respective offices. They must not expect too much from hospital patients, medical students, or young practitioners engaged in the first struggle to establish themselves; moreover, their chief interest is likely to lie in the educational rather than the charitable side of their medical school. These have the wish to help, but seldom the wherewithal. The idea may fructify amongst the charitably-minded members of the public to whose benevolence so many appeals are already addressed, or amongst members of the medical profession who have happily passed their first struggles and have attained prosperity. Observers of educational conditions in America have noted the remarkable sums which the alumni of a trans-Atlantic school, college, or university will contribute to the support of their *Alma Mater*. In this country it may be that the existence of ancient endowments has made the formation of a similar tradition a less obvious course. But the ancient endowments are sadly inadequate to-day.

ANTITYPHOID AND ANTICHOLERA INOCULATION IN EUROPE.

Dr. Louis Poncet, the champion in France of the medical use of Esperanto, has shown the potentialities of the "auxiliary language" in a very interesting way by his monograph on the practice of prophylactic vaccination against the typhoid group of diseases and cholera in 28 European countries.[1] The statistics were extremely difficult to obtain, and even more so to compile, including, as they do, figures attained by an exasperating diversity of methods and results calculated on widely different scales, and texts of legal enactments where the meaning was often obscure even after close study. The figures are almost certainly less than they ought to be, even in countries where notification is strictly in force, and several are missing, but nevertheless the work gives a valuable comparison both of the application and the results of these prophylactic measures in the principal countries of Europe. The countries are classed under three heads: (1) those where these inoculations have never been compulsory; (2) where they have been widely used, although not legally enforced; and (3) where they are enjoined by law. The second category contains our own country and Ireland only, while the first has some rather surprising names. Everyone knows that there is no hygienic legislation in Albania, and no one expects any great sanitary enterprise from Portugal, but it is striking that neither Switzerland nor Denmark, two of the most civilised States in the world, considers these precautions necessary. Carriers are very severely dealt with in Denmark, and in Switzerland the inhabitants coöperate with the doctors by accepting wholesale vaccination during epidemics. Norway owes its comparative immunity to the care it has taken over its water-supplies.

In Great Britain antityphoid and anticholera inoculation has always been voluntary, even in the Army and Navy, but in practice it became almost universal in both services from 1915 onwards. Even as early as 1909 most of the troops who served abroad were protected. Among our civil population, except for those employed in medicine, nursing, and sanitation, hardly anyone ever applies for vaccination, but our typhoid incidence has fallen nevertheless from 8200 in 1912 to 3800 in 1921. The Anti-Vaccination League comes in for some sharp criticism from Dr.

[1] Catalogue of the National Collection of Type Cultures. Second edition. Published for the Medical Research Council (Special Report No. 64) by H.M. Stationery Office. Pp. 67. 2s.

[1] Vaccination Obligatoire ou Vaccination Facultative contre les Maladies Typhoïdes et contre le Choléra en 28 pays d'Europe. Essai d'enquête internationale par l'Esperanto. Lyon: Office Espérantiste, Rue Gerrandière, 30.

Poncet for its work in hindering the spread of these beneficial measures. In Ireland, where the hostility to vaccination is even greater, the typhoid mortality was 21 per 10,000 in 1923.

Of the countries that come under the third heading, Germany is probably the most important. Vaccination against typhoid has long been compulsory in the Army, but is still optional for civilians, though carriers are pursued vigorously and even to the point of compulsory operation. In other countries, especially in Eastern Europe, where typhoid is a serious scourge, inoculation is compulsory in times of epidemic, and permanently in the armies. The author devotes a long chapter to the progress of these measures in France, where they have always been optional for the civil population; energetic propaganda during the war induced a considerable number of civilians to undergo inoculation. He has published in full numberless orders, circulars, advertisements, and statutes from all sources, and has given every chart and table of figures it was possible to obtain.

Apart from the significance to public health of this laborious collection of statistics, they have probably real value in showing the practical use of Esperanto as a medium of intercourse in international medicine. Dr. Poncet is obviously much more interested in Esperanto than in antityphoid inoculation, and has written a lengthy chapter in its praise; but even he could hardly exaggerate the benefits that the general adoption of some universal language by medical societies throughout the world would confer on medical science.

REDUCED PRICE OF BLUE BOOKS.

SOME months ago we announced [1] an offer by the Ministry of Health to supply public authorities and medical officers with copies of the Registrar-General's statistical reviews at a reduced price. The offer was conditional on the subscription being taken up for five years and on a sufficient response. We understand that although the response has not reached the expectations which had been formed, the degree of success realised has been such as to obtain Treasury consent to the confirmation of the arrangement. Subscribers will accordingly be furnished with copies of "Tables, Part I.—Medical" and "Text" volumes of the Statistical Review for 1924 and future years within the subscription term at the reduced price of 12*s.* 6*d.* per annum. The subscription list cannot be kept open indefinitely, and the higher price will be charged to all purchasers who do not enrol themselves as subscribers before the subscription list is closed. Early application is therefore advisable on the part of those who, not having already subscribed, desire to obtain the benefit of the reduced price.

TONSILLECTOMY FOR RHEUMATIC AFFECTIONS.

THE doctrine of focal infection, as applied to the rheumatic affections, appears sometimes to have been put into practice with more fervour than discrimination, and the number of healthy teeth sacrificed on the altar of this new faith must be very large. But there is much to be said in favour of it, notably in the case of the tonsils, and a paper by Dr. Reidar Gording in *Norsk Magazin for Laegevidenskaben* for September illustrates what can be expected of tonsillectomy, when the indications for it are kept within narrow and well-defined limits. Dr. Gording's material consisted of 260 rheumatic patients, most of whom were treated at the Sandefjord hydropathic establishment. They suffered from one or other of the following forms of rheumatic disease: (1) primary, chronic polyarthritis with an insidious onset; (2) chronic rheumatism limited completely, or almost completely, to the muscular and nervous systems; (3) chronic polyarthritis secondary to acute rheumatic fever; (4) acute articular rheumatism with serous effusions which, as a rule, developed in several joints and was often associated with endocarditis. The patients in these four groups were further classified, according as there were or were not signs or a history of disease of the tonsils. There were 93 patients who belonged to the tonsillar group, and whose average age was 27 years, and there were 167 who belonged to the non-tonsillar group and whose average age was 44 years. Tonsillectomy was not attempted in this group, and it was practised with discrimination in the tonsillar group, only 40 to 50 of the patients in this group being operated on. Only in 34 of these cases was the observation period after the operation long enough to warrant drawing conclusions as to its effects. In 25 of these 34 cases the rheumatic disease had developed more or less directly after an attack of tonsillitis or peritonsillitis. In eight other cases there was a history of recurrent attacks of sore throat and abscesses associated with an exacerbation of the rheumatic condition. Only in one case was tonsillectomy performed solely on the indications afforded by an examination of the tonsils. In two cases the rheumatic disease had lasted only four months, and in four it had lasted about 15 years. The average duration of the disease was about four years. In 22 of the 34 cases the patients stated that the tonsillectomy definitely represented a turning point in their illness; in the remaining 12 cases no benefit could be claimed. In the course of a long discussion of the literature of the doctrine of focal infection, Dr. Gording points out that two courses may be followed: the surgeon may make a clean sweep of the tonsils of every patient with signs of rheumatic disease and then count up his gains; or he may follow the course pursued by Dr. Gording and perform tonsillectomy only in those cases in which a more or less definite relationship between the tonsils and the rheumatic affections can be established. At first sight the latter course might seem the most reasonable and plausible. But is it? With careful classification of all the cases before operation the wholesale procedure might well yield more valuable data than the pick-and-choose method, and that without depriving the individual patient of the chance of rapid improvement following a not very serious operation.

LIPIODOL FOR CEREBRAL LOCALISATION.

THE use of lipiodol injections for the localisation of tumours of the spinal cord is now firmly established. Prof. Sicard, who devised this procedure, has now turned his attention to the possibility of getting this opaque iodine-containing oil into the ventricles of the brain, and Rimbaud, Lamarque, and Janbon [1] have recently reported a successful application of Sicard's method to a case of general paralysis in which they obtained X ray pictures of all the ventricles. It is obvious that direct intraventricular injection of lipiodol presents too much difficulty and risk to be a feasible proposition, and Sicard's method has been to use an emulsion of cerebro-spinal fluid and lipiodol of a low density which rises to the highest point of the nervous system bathed by this fluid. The technique adopted was to perform lumbar puncture in the ordinary way with the patient sitting, and allow about 10 c.cm. of cerebro-spinal fluid to escape. A glass syringe is then fitted to the lumbar puncture needle and a further 5 c.cm. of fluid withdrawn. The syringe is detached and a stylet placed in the needle to prevent escape of the fluid, while 5 c.cm. of low density lipiodol are drawn into the syringe and well shaken until an emulsion is produced. This is then slowly injected through the lumbar puncture needle into the spinal canal. Sicard's original technique was very similar, except that his emulsion was made in a separate vessel by stirring with a glass rod. An X ray picture of the skull taken one hour after injection, during which time the patient remained sitting, failed to show any abnormal opacity, but in a second picture taken three days later definite shadows

[1] THE LANCET, August 8th, p. 294.

[1] Bulletin de la Société des Sciences Médicales, Montpellier, September, 1925, p. 426.

could be seen in the regions of the lateral and third ventricles. The patient showed no ill-effects whatsoever, even when leaving the hospital and taking a tram journey after the first radiograph. Encouraged by their results the authors made a second injection of lipiodol eight days later and obtained very striking radiographs at the end of 48 hours. These showed the outline of the lateral, third, and fourth ventricles, and also extraventricular shadows corresponding to the fissure of Sylvius and the insula. Such an addition to the radioscopy of the brain opens up great possibilities in the localisation of tumours and might also possibly assist in determining whether the intraventricular injection of serum is necessary in cases of cerebro-spinal fever where basal adhesions prevent the upward passage of serum injected by the lumbar route. It is also suggested that the close contact of iodine with the brain may have a possible therapeutic application in cases of cerebral syphilis.

UNIFORM NOMENCLATURE OF DISEASES.

A "Nomenclature of Diseases" was first issued in 1869 by the Royal College of Physicians of London, the aim of the compilers being, as stated in the preface, "to prepare a nomenclature suitable to England and to all countries where the English language is in common use." Half a century later American medicine found a similar need and the first report of the Committee on Mortality Statistics was submitted at the Cincinnati meeting of the American Public Health Association in October, 1916, and appeared in *Public Health Reports* (Sept. 22nd, 1916. Reprint No. 363). A second report was presented to the Washington meeting in 1917 (P.H. Reports, Sept. 28th, 1917. Reprint No. 440). A third report of the Committee, over which Dr. Haven Emerson presides, is before us now.[1] The natural desire of every public health administrator to see an accurate system of death certification uniform throughout the United States meets with the unsolved difficulty of the federal aims for uniformity infringing the supposed rights of the several States. When this has been adjusted the next step should be an easy one, when the Royal College of Physicians undertakes its decennial revision, due in 1928. It should then be possible, in agreement with the United States of America, to prepare a revised "Nomenclature" suitable for all the English-speaking peoples. Such a revision would concern the sectional headings as used in the table of contents to the "Nomenclature" (fifth edition, 1918), as well as the titles adopted to distinguish the several diseases. From a survey of the conclusions reached by the American Public Health Association, there should be no difficulty in bringing about agreement on one principal title. The American report includes an approval of a large number of synonyms, some of which have been discarded by the Royal College of Physicians after careful consideration. Most of the remainder of the approved synonyms may be regarded as subordinate to the principal titles and not as substitutes. The American Committee have to keep in mind the practice of the Bureau of the Census and of the various State and Municipal Registration Offices. It is the "International List of Causes of Death" which should form the basis for agreement with the next revision of the "Nomenclature" of diseases by the Royal College of Physicians.

PARATYPHOID IN SWITZERLAND.

Dr. W. Silberschmidt,[2] of the Institute of Hygiene of Zurich University, remarks that though a knowledge of paratyphoid bacilli dates back to nearly 30 years ago, when they were first described by Achard and Bensaude in France and subsequently by Schottmüller in Germany, who was the first to distinguish paratyphoid A and B bacilli, not much has been published on the subject of paratyphoid fevers in Switzerland. During the period 1920–24 340 cases of paratyphoid were notified to the Swiss federal authorities, 45 being reported in 1920, 56 in 1921, 79 in 1922, 115 in 1923, and 45 in 1924. Like other infectious diseases of the alimentary canal, most of the cases were observed in the summer and the smallest number in the first three months of the year. The value of these statistics, however, is not very great, as they are far from complete, notification of paratyphoid not being compulsory throughout Switzerland and the diagnosis often not being made in the absence of bacteriological examination. During the period 1920–24 cases of paratyphoid were observed in almost all the Swiss cantons. The most striking feature was that they were almost always isolated cases. The towns of Bâle and Zurich, however, were exceptions, as they headed the list with 53 and 31 cases respectively during the period mentioned, with a maximum of 36 and 18 in 1923. This does not mean that these two towns were more affected than the rest of Switzerland, but the larger number of notifications merely indicates that notification of contagious diseases was carried out more conscientiously and greater use was made of bacteriological examination at Bâle and Zurich than elsewhere. In the canton of Zurich bacteriological examination of the stools, urine, and blood is carried out gratuitously in all cases suspected to have typhoid, paratyphoid, or infectious enteritis, more than 800 examinations of the kind being made annually at the Institute of Hygiene. About 20 years ago an epidemic of paratyphoid caused by consumption of salt-water fish occurred at Zurich. Formerly many cases were due to consumption of meat from diseased animals, but at present, owing to stricter supervision of the slaughter-houses, the number of these cases has diminished. As in typhoid fever, contamination may take place by contact, but according to the Swiss statistics this mode of propagation is not very frequent in paratyphoid.

[1] Report of the Committee on the Accuracy of Certified Causes of Death and its Relation to Mortality Statistics and to the International List. Vital Statistics Section of the American Public Health Association at its meeting in St. Louis, Mo. Public Health Reports, Oct. 2nd, 1925.

[2] Revue Médicale de la Suisse Romande, 1925, xlv., 489.

THE second Victor Horsley memorial lecture will be delivered by Mr. Wilfred Trotter in the house of the British Medical Association on Friday, July 9th, 1926.

REBUILDING OF MIDDLESEX HOSPITAL.—In order that the rebuilding may begin, the west wing of Middlesex Hospital will be closed in January. The governors have acquired an old Metropolitan Asylums Board infirmary in Cleveland-street, a few hundred yards away, to which the wards in the wing will be removed. This "Cleveland-street Annexe" has had to be given a new roof and new floors, to be drained and replastered, and it has now to be completely equipped as a hospital with two operating theatres and all the necessary apparatus. It will accommodate 200 patients, and as soon as they are removed the reconstruction of the old hospital will begin. About £212,000 has now been received towards the £500,000 that the work will cost.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—Mr. G. R. Girdlestone will lecture on Tuberculosis of the Spine on Monday, Nov. 23rd, at 5.30 P.M., in the Lecture Hall of the Medical Society of London, 11, Chandos-street. All members of the medical profession are welcome. The following courses begin on Nov. 23rd: Medicine, surgery and gynæcology at the Royal Waterloo Hospital; nervous diseases in the out-patient department of the West End Hospital, 73, Welbeck-street, and a late afternoon course (4.30 to 6 o'clock) for the convenience of the general practitioner at the London Temperance Hospital. On Nov. 30th to Dec. 13th the Infants Hospital will hold a special course occupying the afternoons only. The Hampstead General Hospital has also arranged a late afternoon course for the convenience of the general practitioner from Dec. 7th to 19th, covering all branches of medicine, surgery, and the special departments. There will be a course in dermatology at the Blackfriars Hospital for Diseases of the Skin from Dec. 7th to 19th. Instruction will be given in the out-patient department, and venereal clinics will be held twice weekly. A copy of each syllabus and the Fellowship general course programme will be forwarded on application to the secretary, 1, Wimpole-street, London, W. 1.

Modern Technique in Treatment.

A Series of Special Articles, contributed by invitation, on the Treatment of Medical and Surgical Conditions.

CXLVIII.—CHRONIC NASAL DISCHARGE IN INFANTS.*

Coryza Neonatorum.

ACUTE rhinitis in infants is of importance, because this affection may produce intranasal changes with a chronic discharge. Moreover, when older children are brought to us with "chronic catarrh," which is said to have begun with "a cold in the head" at or shortly after birth, a knowledge of the varieties of coryza neonatorum assists in elucidating the pathogenesis and in suggesting suitable treatment in each case.

There are three varieties of the acute rhinitis from which an infant may suffer shortly after birth:—

1. Coryza neonatorum simplex, which is due to air-borne infection and which resembles the cold in the head of adults.

2. Coryza neonatorum blennorrhoica, in which the discharge is profuse and purulent from the onset and is caused by leucorrhœal or gonorrhœal discharge in the mother's vagina at the time of birth; the nose is infected directly or from the eye through the naso-lacrymal duct.

3. Coryza neonatorum syphilitica, the nasal symptoms of which are manifestations of the secondary stage of inherited syphilis.

At an early period of the illness it may be difficult to determine which of these affections is present. It is usually found, however, that when a healthy infant contracts coryza after birth the symptoms appear later, are less severe, and of shorter duration. In the blennorrhœal variety the onset within the first day or two of life of an abundant and persistent discharge of pus, sometimes containing gonococci, and the swelling of the nose and crusting of the nostrils are outstanding features. Snuffles may be the first and for several weeks the only sign of a syphilitic infection. Confirmatory evidence of the existence of this diathesis is supplied by the characteristic signs on the buttocks, around the anus, and at the angles of the mouth. This specific coryza differs from the other varieties also in that the nose is drier and the nasal discharge is thicker and tends more to crust.

Coryza neonatorum, whatever its origin, is always a serious ailment owing to the swelling of the lining membrane of the nose and accumulation of secretion which prevent nasal respiration. The instinct to breathe by the nose is strong and mouth-breathing is not readily adopted, so that a constant tendency to suffocation is produced. The nasal obstruction interferes also with sucking, which has to be stopped at very brief intervals to allow of breath being taken. The efforts to obtain a sufficient supply of air and food cause rapid exhaustion, and when to this are added complications in the larynx and chest owing to an extension of the inflammatory process and the low vitality of the majority of these little patients, the outlook becomes extremely grave.

The indications in coryza neonatorum are: to maintain the strength, diminish the catarrh, improve the nasal patency, guard against infection of the conjunctiva if it has escaped, and treat any underlying dyscrasia. It is necessary to act promptly. Spoon-feeding or a tube must be used. If the inspiratory efforts tend to cause aspiration of the tongue the infant must not be laid on its back. The crusts filling the nostrils should be softened with warm almond oil or paroleine and removed. The pus and mucus in the nasal fossæ should be liquefied by instilling at intervals with a medicine dropper a few minims of a warm solution of bicarbonate of soda (3 gr. to 1 oz.) or other alkaline detergent. Great care must be taken that the fluid does not reach the naso-pharynx in any appreciable amount owing to the danger of causing otitis. When the discharge is thinned it should be mopped or sucked out of the nose by means of an all-rubber pear-shaped syringe having a long tapering end. The catarrh is best treated by silver preparations. The nitrate is most in favour instilled or used as a paint (2 per cent.) and less often as an insufflation (2 parts with talc 100 parts). Argyrol (10 per cent.), protargol (4 per cent.), collosol argentum, &c., are also recommended. If obstruction is great owing to swelling of the mucous membrane the passages may be painted every two hours with adrenalin solution (1 in 10,000). Cocaine is not admissible except in weak solutions (½ per cent.) and at long intervals, and menthol has produced fatal glottic spasm in babies. The skin of the nostrils and upper lip should be smeared with cold cream in order to counteract the tendency to excoriations and eczema.

In congenital syphilis constitutional treatment is of first importance; the local measures outlined above, or, if considered preferable, a paint of colloidal mercury or insufflations of calomel and sugar (1 in 25) may be employed. When there is tendency to dryness of the nose tampons soaked with diluted Mandl's solution (iodine gr. 3, iodide of potassium gr. 12, glycerine 1 oz.) may be introduced.

Osteomyelitis of the Superior Maxilla.

Osteomyelitis of the superior maxilla causes a variety of nasal suppuration occasionally met with. This affection in most cases sets in suddenly one to three weeks after birth, with general disturbance and unilateral local signs. Of the latter, the principal are swelling of the eyelids, cheek, alveolus, and palate on the affected side; formation of an abscess below the inner angle of the eye; and discharge of pus from the eye, nostril, and alveolus. Later, a tooth protrudes through the swollen alveolus and being loose is easily removed. Access is thus obtained to a comparatively large cavity containing pus and often communicating with the nose. This cavity is a dental sac, but it has been repeatedly mistaken for the antrum—which in early life is smaller than the sac—and the affection has been described as empyema of the antrum of Highmore in infants. Areas of bare bone may be detected in the alveolus and outer wall and floor of the nose; and during the later course of the disease sequestra are extruded. In some cases that have succumbed the whole upper jaw has been found necrosed. Metastases occasionally take place. The disease has been attributed to various causes, but the most probable is a blood-borne infection.

In the early stages of the disease special attention should be paid to nutrition of the infant in order to help it to withstand the effects of a long and debilitating illness. Free escape should be provided for purulent collections, but it is rarely necessary to incise the skin below the eye, and if possible this should be avoided. A tooth projecting through the gum should be removed. The patient may come under our care when there is merely a purulent discharge from the nose, alveolus or a sinus. Search should then be made for sequestra and their removal effected provided this does not entail a severe operation, which is badly borne and liable to be followed by disfigurement.

A. BROWN KELLY, M.D., D.Sc.Glasg.,
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* An article by Mr. Brown Kelly on Chronic Nasal Discharge and Sinusitis in Children will appear in THE LANCET next week.

NUNEATON: CALDECOTE HALL. — The Central Council of the Church of England Temperance Society announces that on Tuesday, Dec. 8th, at 1 P.M., Sir William Joynson-Hicks, Bt., will open Caldecote Hall as a home for cases of certain types of functional nervous disorders.

Special Articles.

ROYAL COMMISSION ON LUNACY AND MENTAL DISORDER.

THE Commission resumed its sittings, after the summer interval, on Nov. 10th, Mr. Hugh Macmillan, the Chairman, presiding.

Evidence of Sir Maurice Craig.

The first witness was Sir Maurice Craig, lecturer in psychological medicine at Guy's Hospital and hon. consulting neurologist to the Ministry of Pensions. He said he was for 15 years assistant physician to Bethlem Royal Hospital, and for a year was an assistant medical officer at the West Riding Mental Hospital, Wakefield.

Certification or Notification.—Sir Maurice Craig declared that the Lunacy Acts of 1890-91 were intended to protect the liberty of the subject, but in effect they had interfered with the liberty of persons intending to use them. Medical treatment took only a secondary instead of a primary place. No branch of medicine had been so trammelled by legal enactments as had psychological medicine, hence its progress had been slow, and many medical practitioners were shy of taking it up. In connexion with the certification of people of unsound mind the legislature had placed an obligation on the medical man which had nothing to do with medicine. Certification, indeed, he regarded as an embarrassment to medical science, as it confused the relationship of the physician to the patient, and his own view was that it was responsible for much recoverable mental disorder being permitted to become chronic before suitable treatment had been entered upon. Often mental disease was of slow development, the patient was conscious of his gradual mental failing, and dreaded that he might become insane. He needed to be reassured and have appropriate treatment early. Some medical men were afraid of undertaking treatment of these cases, the conditions attending certification acting as a deterrent. Yet it was practically unknown for a person to take action against a medical man for malpraxis when certification had not been reached. He said it was not surprising that medical men were refusing, in increasing numbers, to sign certificates of lunacy, the reason given being that they did not know what insanity, in the legal acceptation, meant. Sir Maurice Craig said the harm done by certifying patients in the early stage of their illness far outweighed any advantages. He would like to see certification abolished, at least temporarily; this would do much to bring mental disease into line with physical disease. Mental patients could be placed in three categories: (1) the willing and coöperative, (2) the passive and indifferent, (3) unwilling and hostile patients who demanded their freedom. One of the results of the temporary abandonment of certification would be, the witness considered, a large proportional increase in cases in the first category, as patients would soon find that application for treatment of their mental condition was not likely to endanger their personal liberty. Cases in this first class should certainly be treated in special hospitals or clinics, buildings which were not even in the same grounds or precincts as properly named mental hospitals. A non-volitional patient should be granted the same freedom from certification as a willing one, at least for such a period as would make possible his recovery. Patients in the third category should continue to be treated in the same kind of institution as the present mental hospital, but under some form of provisional notification or provisional certification at first. He agreed with borough or county hospitals being permitted to take voluntary patients, and added that until such time as fresh accommodation could be found the non-volitional group of cases should be admissible to those institutions without having to be certified. He favoured the perpetuation of licensed houses, and thought the willing cases should be able to go to them for treatment on their own written request without it being necessary for them to apply to the central authority for permission. Sir Maurice Craig thought it was desirable to permit, by legislation, non-volitional cases to be treated on notification only—i.e., short of certification—while the unwilling group could be under some form of provisional certification. Where patients were given the choice they usually preferred private single care; he would himself.

Mental Symptoms Associated with Bodily Illness.—He stressed the necessity of recognising the acute mental conditions which were associated with bodily illness, such as pneumonia. He would have a routine inspection of all nursing homes, ordinary and special, and would like this largely to take the place of so much inspection of the patient. At one time he did not favour this supervision being carried out by the Board of Control, as he then considered that body was too much steeped in the traditional treatment of mental disorder; but he now appreciated how much the Board had taken up modern views on the subject, and thought it was quite fitted to undertake this supervision, including cases in the early stage of mental illness. Still, he thought the medical side of that Board should be strengthened, as contrasted with the legal constituent. At Guy's Hospital there was one neurological department, and in that were included cases of early mental disorder. This did away with a reluctance on the part of patients to attend an obtrusively mental clinic. The activity of this department was steadily increasing.

In answer to a question by Sir Humphry Rolleston, the witness said he felt himself in a difficulty when he had a case of mental disease as a sequel to pneumonia, because though from the hospital standpoint the patient was regarded as primarily suffering from pneumonia and the mental trouble was secondary, that was not so in the eyes of the law. Yet it would be a very serious step to certify such patients, especially in view of the detrimental effect of the certification on their subsequent life. Asked whether he advocated a measure to afford further protection to the medical man dealing with cases of insanity, Sir Maurice Craig said he personally would not seek such a measure, because if he were charged with a wrong procedure in such a case it would merely mean he was being charged with behaving like a human being. He thought increased research would show that more and more mental states had a definite causal relationship with physical disorders. He had always encouraged the idea that mental ailments were a branch of general medicine. At the Cassel Hospital, at Penshurst, Kent, there was always a waiting-list of 40 to 50 non-certified cases. These cases, on admission, paid 5 guineas per week, an inclusive fee, and there were two wards at 3 guineas. The cases were followed up, and a return made to show what had happened to them.

Following a discussion on the mental condition of a man who was insane only at certain periods, the Chairman said he felt that the doctor should not be subject to be influenced by the idea that he might get into trouble for what he did; he should be able to approach a case without fear or favour, and he should be protected, always assuming that he acted in good faith. In the course of answers to further questions, the witness said that to neglect to make provision for the early treatment of mental disorder was equivalent to telling a patient who came feeling ill that the illness could not be treated until there were cavities in the lung and hæmoptysis occurred, but after that he would be treated and looked after for the rest of his life. He also had a great objection to early mental cases being placed with confirmed cases, which constituted for them a tragic outlook. He favoured the general hospital being a clearing-house, where new cases could be investigated and passed on.

Sir Humphry Rolleston suggested that if notification were substituted for certification it might only be a matter of time before the former was viewed, in the popular mind, in the same way as certification now was.

Mr. Jowitt put to Sir Maurice Craig the disadvantage to fresh patients of being placed in noisy surroundings, and the reply was that the witness was very much in favour of more single rooms; he had often wondered how patients were expected to sleep in a dormitory. He believed such noise and lack of sleep might drive a patient over the borderline.

Sir Humphry Rolleston reverted to the question of the reluctance of the profession to certify, and asked the witness whether he thought it well that there should be a specialised class of medical officer to deal with this subject, allocated to districts, as in the case of tuberculosis and venereal disease officers. Sir Maurice Craig replied in the affirmative, adding that such officer should not himself be in practice. In further replies he said he did not think any private mental home would object to revealing its balance-sheet to the Board of Control; he did not see any need to make such statement public.

The Student's Curriculum.—Questioned as to the inclusion of the study of insanity in the curriculum, witness said the desire was to get this subject recognised along the same lines as clinical medicine, though he well knew how burdened the curriculum was already. It was essential, he thought, that every medical student, on entering practice, should know something about the mind and its working, and he would accord more prominence to that, even if it were necessary to curtail something else. At Guy's Hospital Medical School courses on mental neuroses would be given, and it was hoped to proceed to a systematic study of the mind. Personally, he would have both an extended scope and some knowledge of psychiatry possessed by every qualified student.

Evidence of Dr. F. L. Golla.

Dr. Frederick Lucien Golla, pathological director of the Laboratory of the London County Council, was the next witness. He considered it desirable that facilities should be afforded for pathological research, not only in individual mental institutions, but also at central institutions, throughout the country, the latter offering assistance and advice to the smaller laboratories, and undertaking training of asylum medical staffs.

Research Facilities at the Maudsley Hospital.—That was the scheme under which London worked. He himself did his work at the Maudsley Hospital, where he had in coöperation three skilled assistants, engaged whole time. Four assistant medical officers from mental hospitals acted for a period of three months at the laboratory as a training, and the choice was determined by the medical superintendents or the assistant officer's own application. This procession of four assistants went on throughout the year. All the Wassermann and other tests for the London County institutions were done at his central laboratory. Dr. Golla said he also engaged in research initiated by himself, and supervised that done at the other asylum laboratories in the County, and suggested subjects for study at those laboratories. There was, at the Maudsley Hospital, a department for physiological psychology, for investigating the physiological concomitants of mental disturbance; they investigated the changes in metabolism occurring in association with various mental states, the reactions in those states, and, in another department, questions of more or less pure psychology were dealt with, and a record was kept of the family histories of all the cases and their coördinate relationships. All that work he regarded as of the greatest importance. He thought the ordinary medical officer should be encouraged to investigate cases; it would assist diagnosis and in the suggestion of remedies. An enormous field was opened by this work; we were definitely behind several other countries in this matter. He said that in psychology there was no such clearly cut classification of disease as in physical medicine, hence there must be means of investigating the patient himself, and the London County Council had recently effected great progress in providing these facilities. In the provinces four or five counties could be grouped for coördination with one central institution. Outside London, with the exception of Birmingham, Cardiff, and one or two other centres, there was not much research being done in mental disease. He thought medical officers should be granted adequate leave from their duties so that they might continue their studies, and time spent in research should be regarded as part of the duties of the asylum medical officer. He favoured the idea of local authorities making grants-in-aid to such institutions in the provinces. The malarial treatment of general paralysis of the insane was a good instance of a definite advance due to a modern discovery; again, true asylum dysentery, at one time very prevalent, was now practically unknown, an enormous economy in the matter of money and life.

Evidence from the Central Association for Mental Welfare.

Dr. A. F. Tredgold, Miss Evelyn Fox, and Miss F. Andrew attended to give evidence on behalf of this body, mainly concerning adolescent mental disorder, which was, they affirmed, widely prevalent and was a menace to the general state of society. These cases were not incipient, and no existing administrative provision covered them, yet they needed supervision, training, and treatment of a kind not possible in the home. The establishment of training homes for these cases was urged, where skilled treatment would be available. It was suggested that admission to such establishments, if set up, should be on the application of a parent or guardian, or in the alternative, of a local authority backed by a medical certificate that the case was a suitable one.

Mr. Jowitt questioned whether this matter was not outside the terms of reference, and following upon this an argument took place as to whether these cases really came within either the Mental Deficiency Acts or the Lunacy Acts. The Chairman thought the category was so indefinite that charity might meet the need.

Sir Humphry Rolleston asked Dr. Tredgold as to the degree of prevalence of mental disorder accompanied by misconduct, and the witness replied that the number of cases of mental disorder which had recently been met with as a sequel to encephalitis, chiefly lethargic, rendered the problem more acute. Sir Humphry Rolleston said he thought it possible a case could be made out for an amended Mental Deficiency Act.

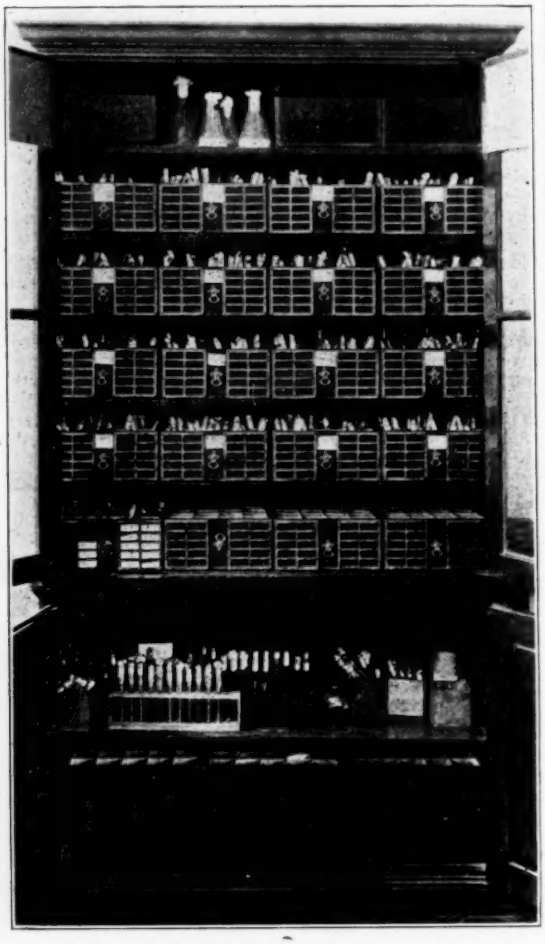
Another submission tendered by the witnesses was that there should be an adequate investigation, from the mental standpoint, of all persons criminally charged in whom there was reason to suspect mental defect.

The Commission then sat privately, and adjourned to a day to be notified.

PHILADELPHIA: ALVARENGA PRIZE.—The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about $300, will be made on July 14th, 1926, provided that an essay deemed by the Committee of Award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in medicine, but cannot have been published. The essay should represent an addition to the knowledge and understanding of the subject based either upon original or literary research. Essays must be received on or before May 1st, 1926, by the secretary of the College, 19, South 22d-street, Philadelphia, Pa., U.S.A., from whom all further information may be obtained. The Alvarenga Prize for 1925 was awarded to Dr. Raphael Isaacs, of Boston, Mass., for his essay on the Nature of the Action of Roentgen Rays on Living Tissue.

THE NATIONAL COLLECTION OF TYPE CULTURES.

IT was in 1920 that the Medical Research Council made arrangements to maintain at the Lister Institute this admirable collection of type cultures. In the past the demands of biologists and bacteriologists for an available supply of authentic strains of bacteria and protozoa had never been fully met, and the need for such a supply was particularly felt in medical research work, both for the study of principles and methods in bacteriological investigations and for



A cabinet in the collection of type cultures at the Lister Institute.

systematic classification of species and strains. The Lister Institute had assisted bacteriologists at home and abroad as far as its private resources permitted and there was a certain amount of international coöperation, but conditions were far from satisfactory. The National Collection has filled the gaps. At first attention was concentrated on obtaining fully authenticated strains of pathogenic organisms, but as opportunity has offered additions have been made of those of economic importance. In 1921 it became apparent that mycologists were in need of a collection on similar lines, and by coöperation this was added at the Lister Institute. Though the mycological section is at present limited to a few hundred strains it is hoped to collect and maintain cultures of all fungi of importance in plant pathology, medicine, veterinary science, technology, and soil biology, besides specially rare or interesting species.

To keep up so large an establishment is a task of some magnitude and gives ample opportunity for research on economical and labour-saving methods of subculture. The work is so apportioned that a certain number of organisms come up for subculture every day and a diary is kept in which the dates are entered up many months in advance. There is, therefore, no fear of any organism or group of organisms being inadvertently overlooked. Some require frequent subculturing, such as gonococci, *M. catarrhalis*, *B. bulgaricus* and *acidophilus*, and anaerobic actinomyces. Others are extremely hardy, for example, *B. anthracis*, most of the anaerobes, *B. coli*, and other coliforms, *B. typhosus*, yeasts and various moulds (penicillium and aspergillus). Many of these could be safely left for a year, but in practice no organism is left more than six months without subculturing. In between these extremes there are many which are subcultured at monthly and two-monthly periods. Some species of pathogenic organisms (e.g., *B. anthracis*, *B. avisepticus*) appear to maintain their virulence for many years in artificial cultivation. Others become rapidly attenuated. At the Institute a few types (streptococci, *B. pestis*, *B. enteritidis* Gaertner, *B. tuberculosis*) are kept virulent for animals and an endeavour is always made to exalt pathogenicity on special request. Cultures of *B. tuberculosis* lose their virulence on long cultivation in the laboratory; freshly isolated strains of the bovine variety, for example, lose their virulence in about three years.

But, apart from research, such a collection requires and deserves to be used as much as possible by practising bacteriologists. The new edition of the catalogue is intended to stimulate microbiologists in this and other countries to avail themselves further of the resources of the collection and also to deposit important strains for maintenance and reference. Every effort is made to meet the needs of applicants for cultures, and help is given in identifying strains submitted for the purpose. Although the Director can only accept cultures for the collection at discretion, it is hoped that this will not deter workers from forwarding strains of even the commonest types of organism. These are useful in maintaining an adequate representation of strains of recent origin, and studies in classification are aided if large series of authentic specimens of closely related species are made available.

Communications on the subject may be addressed to the Curator, National Collection of Type Cultures, Lister Institute, Chelsea, London, S.W. 1.

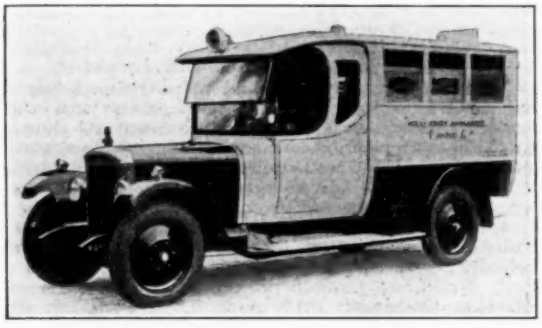
AMBULANCES AT OLYMPIA.

ALTHOUGH the cars shown at the Commercial Motor Exhibition, held at the end of last month, were very varied, and included vehicles for almost every purpose, it was disappointing to find only six ambulances. The ambulance is one of the most highly specialised forms of motor vehicle there is; it must be fast and very comfortable, and perfectly fitted, lit and warmed, and must also be designed so that it can be readily cleaned and disinfected. Ambulances, therefore, fall into two classes. The first is designed by motor manufacturers to fit their own commercial chassis, like the Bean, the Berliet, and the Austin; the second is designed by ambulance builders to fit the largest and most luxurious private-car chassis, and of these hardly a representative was to be seen. Their advertisements are familiar to readers of medical journals, but for some reason they did not exhibit. The Pickford ambulance, on a 25/85 Daimler chassis, was the only true example, and the Talbot 25/50 was an instance of a first-class ambulance made by a motor-car firm. These are the cream-white vehicles with the musical gong that are so familiar in the London streets. The car-makers' ambulances are by no means to be despised, as,

although they are not as luxurious and fastidiously equipped as the work of ambulance specialists, they are yet extremely efficient, and as motor vehicles are absolutely reliable.

The Bean ambulance is designed to provide essential equipment at the lowest possible price; "extras" of every kind are listed so that the purchaser can choose

FIG 1.

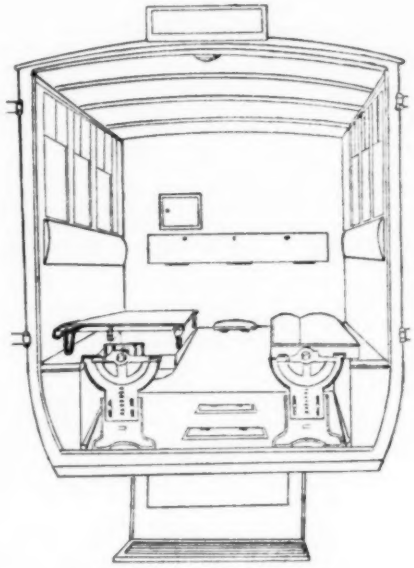


The J.H.C. type ambulance, fitted on a 25 h.p. Daimler chassis.

just what he wants. The chassis is the 20–25 cwt. Commercial, with four speeds, and 5 in. straight-sided pneumatic tyres, and for £500 is fitted with two stretchers and a hinged seat. Heaters, wash basins, starter, headlamps, &c., are extras. The ventilation system is excellent, and the body is easily disinfected. The finish is "self" coloured—i.e., varnished wood panels—and the springing is very good. All possible extras, including four wheel brakes and wash-basin, total £90.

Automobiles Berliet fit ambulance bodies to all of their 15, 20 and 30 cwt. chassis. The model at

FIG. 2.



Interior of J.H.C. ambulance.

Olympia was the 20 cwt. 15·9 h.p., slightly larger than the Bean, and also varnished inside and out in self-colour. There is room for two stretchers, of which the bottom one is fitted with 12 in. rubber-tyred wheels, so that a patient can be wheeled any distance. If the ambulance is intended for infectious cases the body is specially prepared with all corners neatly blocked and rounded off, and the stretchers are fitted with Dominion wire mesh, which can easily be disinfected. Four gears are fitted, and the price is £525. The body of this machine is made by Wilson and Stockall, of Bury.

The Austin ambulance is fitted to the well-known Austin 20 chassis, with a lowered gear ratio. It is a handsome vehicle, finished in dark green, with two large frosted-glass windows on each side. The top stretcher lowers with the reliable and popular parallel-ruler and worm-wheel device. The back doors expose the whole interior when open, and shut with a slam lock; there is a further safety lock to prevent theft. A sliding door can be fitted in front beside the driver if required, to facilitate the entry of sitting cases. The interior is enamelled white, with linoleum or rubber tiling on the floor, and is very fully equipped. The price is £725 at the works.

The Talbot 25/50 hospital ambulance is a splendid vehicle. The stretcher-frames are made of non-

FIG. 3.

Ambulance trailer.
By Eccles Motor Caravans.

staining steel alloy, and run on rubber-tyred wheels; the stretchers can be replaced by upholstered seats with padded back-rests. The car will take two stretcher cases, one stretcher case and four sitting cases, or eight sitting cases. Two folding seats are fitted for attendants. The interior of the roof and walls is smooth-surfaced and has rounded corners, and the lower portion of the sides and floor are sheathed in aluminium. Heating pipes fed from the exhaust run under both seats. Full medical equipment is fitted, and two roof lights, roof ventilation, an electric fan, and an inspection lamp. The price is £850. The Accident type, at £785, is identical with the Hospital model, except that it is less lavishly fitted and has no heater nor fan.

The ingenious "penny-in-the-pound" scheme adopted by the Sheffield Joint Hospitals Council has not only maintained the hospitals of Sheffield on an adequate footing, but has made them almost prosperous. A part of the Council's activities is the provision and maintenance of a fleet of ambulances, and they have chosen one of the most luxurious and beautifully equipped machines obtainable. The makers are E. H. Pickford and Co., Ltd., of Sheffield, who designed a type of body known as the J. H. C. (Fig. 1), especially to suit the requirements of the Council. The chassis is the 25/85 h.p. 6-cylinder Daimler, and the cost of the ambulance, complete, is £1130, or £1030 on the 20/70 chassis. Four wheel brakes are fitted. The stretcher equipment (Fig. 2) is beautifully designed. Four stretcher cases can be carried, and the two top racks lower instantaneously with a special extension device which projects them clear of the back of the ambulance so that cases can

be easily laid on them and swung into place, and the whole stretcher equipment can be quickly folded up to make room for ten sitting cases. Splints, utensils, and a medicine chest are included in the equipment, the whole of which can be easily taken out to cleanse and disinfect the interior. The finish is left to the customer's choice, but the model shown was in black and white. It is certainly one of the finest ambulances on the road.

Few hospitals or municipalities can afford ambulances as expensive as this, however, and many cottage hospitals and nursing homes find even the cheaper models outside their reach. For these there is a really admirable little vehicle made by Eccles Motor Caravans (Fig. 3), a trailer which, although it is only 7 ft. 3 in. by 5 ft. 6 in. by 5 ft. 9 in., will take two stretcher cases in comfort, and possesses the completest outfit down to hot-water bottles and blankets. It can be trailed at a very fair speed behind any 10 h.p. car, and costs only £135. It has automatic brakes of its own, and is beautifully finished inside and out. The "Eccles" sounds such a godsend to the small hospital that it will be surprising if it does not become extremely popular.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Closed Pharmacies.

YOUR Paris correspondent lately complained of the drawbacks of the closure of Paris pharmacies. Things are arranged otherwise in Berlin. Until the war the pharmacies were compelled to be open day and night, Sundays and holidays included. There was always a chemist on night duty in each pharmacy who received the prescriptions through a hole in the shutters, whilst the individual fetching the medicine had to remain outside in the street. During the war, when the great majority of chemists and their assistants had joined the army, the Government, under the powers conferred upon them, ordered that of four pharmacies only one had to be open on Sundays, holidays, and at night. The other pharmacies, even when they wished to keep their shops open, were not entitled to do so. This system was maintained after the war, although there was no longer a shortage of qualified assistants to do night duty. A licensed chemist in Hanover, who tried to keep his shop open day and night, was prevented by the local police under the regulations issued during the war. He therefore brought an action against the police, pleading that the regulations had been contrary to the apothecaries law, and that they had expired with the lapsing of the Emergency Act. The High Court indeed gave a judgment that this was really the case, and that the chemist had the right of having his shop open day and night. The German Association of Licensed Chemists and the Union of Assistants, who had been very much satisfied with the state of things during the war, thereupon decided to maintain it by agreement amongst themselves. The system certainly works very satisfactorily from the point of view of the public. To save the public unnecessary trouble there is on every closed pharmacy a poster indicating the nearest pharmacies open, on a system of weekly rotation. Moreover, every medical man residing in Berlin receives in the beginning of the year from the Chemists' Association a calendar with a complete list of the pharmacies which are open by rotation at night or on Sundays. In this way there is no need for a sick person to do his pharmaceutical shopping early. It never occurs that a pharmacy described as open is actually closed, as stated by your Paris correspondent. It must, however, be considered that the licensed chemists in this country are under strict Government control, and are regularly visited by the district medical officer of health, together with a Government chemist. Contrary to the law in France, there is a "numerus clausus" for licences. A chemist after having duly qualified is not entitled to open a shop at once, but he must wait until a licence becomes vacant by the death of a licensed chemist or until the Government grants a new licence when there is a need for the increase of pharmacies. It is not legal to sell or to buy a licence; a licence may, moreover, be withdrawn by a law court in cases of grave misdemeanour. In Berlin, which has about 4 million inhabitants, there are only 380 licensed pharmacies. This number would be inadequate were there not an unlimited number of druggists, who, however, are not allowed to make up prescriptions or to sell poisonous drugs.

Medical Lectures for Working People.

Laymen frequently complain of medicine being a science which has but little connexion with the nation. This view is, however, erroneous, as shown by the fact that eminent medical men have accepted an invitation of the trade unions of the great industrial city of Essen to deliver lectures to their members. Among the lecturers are Prof. Sauerbruch, of Munich, on the surgical treatment of tuberculosis; Prof. Rubner, of Berlin, on fatigue; Prof. Thomas, of Leipzig, on the self-government of the human body; Prof. Krehl, of Heidelberg, on the prophylaxis of infectious diseases; Prof. Aschoff, of Freiburg, on the value of autopsies and of experiments on animals for the public health; and Prof. His, of Berlin, on the circulation of the blood and its derangements. The first lecture, delivered by Prof. Bier, of Berlin, on the importance of physical exercises for the prevention of tuberculosis, was very well attended. The scheme of the lectures is a good one, and will certainly contribute to inform the working people of the value of medical researches for their health. The series was opened by an introductory speech from the Chancellor, Dr. Luther, formerly mayor of Essen.

The Institute for Tropical Diseases.

The Institute for Tropical Diseases and Tropical Hygiene in Hamburg recently celebrated its twenty-fifth anniversary, representatives of the Government, the city of Hamburg, and of the medical profession being present. The foundation of the Institute was suggested by the late Prof. Koch, and it was first planned that its seat should be at Berlin, and that it should be attached to Prof. Koch's Institute for Experimental Medicine. It was, however, decided that Hamburg was preferable, because in that great port where seamen from every part of the world meet there is a greater opportunity for the study of tropical diseases and the treatment of patients. The first home of the Institute proving too small, new premises were built and opened in 1914. The premises consist of several buildings. In the main building there is the office of the medical officer of the port of Hamburg, to whom tropical diseases are notified by ships entering the port and who can therefore at once direct patients to the Institute. There is a museum of tropical hygiene, a laboratory to accommodate 50 students, and a library of 20,000 volumes, being the most complete on that subject in Germany. An animal station is connected with the laboratory, where the animals are observed after experiments performed on them. The hospital attached to the Institute has 70 beds, intended for seamen of every nation, and for Germans who have resided in tropical climates. Hitherto about 1000 medical men have worked in the Institute, and about 600 scientific publications have been issued under its auspices. It is a matter of congratulation to the city of Hamburg, which finances the Institute, that the work has been maintained even during the hard times of the inflation. In connection with the jubilee the Society for Tropical Medicine held a meeting, Prof. Nocht, of Hamburg, being in the chair. Prof. Plehn, of Berlin, formerly of East Africa, read a paper on the development of blackwater fever. Prof. Fülleborn, of Hamburg, gave a report on researches into ascaris infection, and described the complicated mode of entry of the larvæ into the host through the intestines and the lung to the stomach, where the larvæ develop as

worms. Dr. Winkel, of Java, Dutch East Indies, gave a report of the salvarsan treatment of frambœsia. By a few injections the disease is, as a rule, cured. Prof. Ziemann reported on a disease known in the tropics as gangosa, somewhat resembling frambœsia. Dr. Hoppenhauer, of Tübingen, praised the results obtained by the treatment of dysentry by yatren, which he described as the best remedy in acute and chronic cases. Excellent results have been reported from the Congo, from the British and the Dutch East Indies, from Japan, and from South America by many authors, who all agree with the extremely good action of the compound. Dr. Werner, of Berlin, spoke on the five-days' fever (febris quintana), a disease which had been observed during the war in the Balkans. Among other papers read before the congress was one by Prof. Thiel, of Leyden, on anopheles; one by Prof. Mühlens on his travels through South America for the study of malaria; and one by Prof. Zschukke on the diseases in Central America. The meeting was attended by 200 medical men who had had experience in tropical diseases.

Public Health Services.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

THE following health statistics for Liverpool and Leeds show a great similarity. Liverpool has a higher birth-rate, while Leeds shows higher cancer and childbirth mortality. In Liverpool the childbirth death-rate is generally low, perhaps owing to the excellent lead that has been given for many years by the Ladies' Charity.

Name of city.	Estimated mid-year population (R.-G.).	Birth-rate.	Death-rates per 1000 of the population.				Death-rates per 1000 births.		
			All causes.	Tuberculosis.	Cancer.	Resp. diseases with influenza.	Neonatal mortality.	Infant mortality.	Maternal mort. from childbirth.
Liverpool ..	836,396	24·6	13·6	1·52	1·12	3·7	35	103	3·0
Leeds	471,600	18·1	14·3	1·46	1·35	3·8	39	108	3·8

Liverpool.

Dr. A. A. Mussen, the present medical officer of health, and Dr. E. W. Hope, his predecessor, produce a joint report. Only one case of small-pox occurred during the year, and about 75 per cent. of the child population are successfully vaccinated. The results of an inquiry suggested that a considerable amount of vaccination of unvaccinated children is also done within the school period. Six cases of anthrax were reported during the year. Two of the patients handled wool, three handled hides, and one looked after a machine for crushing bone. Up to 1924 nearly all the cases of enteric fever in Liverpool have been caused by *B. typhosus*, but in that year there were 24 cases caused by *B. paratyphosus*, besides 36 caused by *B. typhosus*. Most of the paratyphoid cases occurred in April and May and they had an unusual sex and age distribution. Females and persons under 15 were chiefly affected, and as none of the usual food sources of typhoid fever could be traced, it is deduced that the agent responsible is widely used but not heavily infected, and is more indulged in by children than adults.

There were 230 notifications of encephalitis lethargica compared with 111 in the previous year. The diagnosis was revised in 33 cases after admission to hospital in favour of tuberculous meningitis (eight cases), enteric fever (three cases), pneumonia (four cases), or other conditions, but there remained 189 cases with a case fatality of 10·6. The case fatality in 1923 was 32·4, and it is suggested that the decrease is partly due to mild cases being recognised. Up to the autumn of 1922 lethargic symptoms were predominant, during 1923 cerebral irritation became a more prominent symptom, and in 1924 there was a tendency to revert to the lethargic type. Prior to 1923 the disease occurred in groups with no direct association of cases, during 1923 it was widespread in the city and neighbourhood, in 1924 the area chiefly affected was a broad band of city and suburbs. Half of the 1924 cases were under the age of 20. Before this age sequelæ are commoner, whilst the mortality increases with advancing age. The Liverpool experience is exceptional in that the infectious nature of the disease is clearly demonstrated. In about 18 per cent. of the 1924 cases, and in 9 per cent. of the 1923 cases, a possible connexion with a preceding case was made out. The incubation period is usually from a week to a fortnight. A diagram shows that encephalitis and influenza are not as a rule prevalent together; but in 1924 epidemics of the two diseases occurred simultaneously. Inquiries about the condition of 94 survivors under 16 years of age showed that 37 had made a complete recovery or were but slightly affected. Of the remaining 57, 37 were attending elementary schools, 9 were absent from school, 3 had left school, 4 were in reformatory schools for delinquency, 2 in special schools, and 2 in asylums. Among the 57 the most frequent condition was alteration of the sleep rhythm, which was usually associated with a want of self-control and in extreme cases with moral imbecility. The admission of these children to asylums is not recommended, for recovery may still be possible; and it is suggested that an attempt should first be made to educate them in special classes, and that, if this fails, a residential institution may have to be considered. In view of the definite infectivity of the disease, school-children from infected houses are excluded from school for a period of three weeks.

A chart shows the death-rate in Liverpool per 100,000 from diabetes for each quinquennium since 1890. During 1890–94 the rate was 3·8, and during the next three quinquennia it was 5·3, 6·5, and 8·4. During 1910 to 1914 it was again 8·4; in the war quinquennium it fell to 7·4, and during 1920–24 it rose to 8·6. During the first six quinquennia about 120 males died, compared with 100 females, but in the last quinquennium only 75 males died, as against 100 females, and it seems conceivable that this alteration is due to insulin having a more marked effect in males. A satisfactory scheme is now in operation for dealing with all classes of blind persons, and the city council has passed a resolution recommending all corporation committees to give special consideration to the workshops of the blind when making contracts for articles such as brushes and mats. The Carnegie Welfare Institute is proving a most valuable addition to the maternity and child welfare scheme, and the present report contains photographs and a plan of this new building. Out of 20,599 births, 13,270 were attended by practising midwives and 1501 by the midwives of the staff of the Ladies' Charity; 398 still-born babies were examined by the city bacteriologist, of which 26 (6¼ per cent.) were reported as probably syphilitic. There were 690 notifications of ophthalmia neonatorum during the year with three cases of damaged sight among the survivors. X ray examination has been much used for the diagnosis of tuberculosis, and the satisfactory results are shown by the facts that whilst out of 1806 admissions to sanatoria, only nine patients were subsequently considered to be non-tuberculous; cases diagnosed as negative seldom return to see the tuberculosis officer. The Seamen's Dispensary was opened in January, 1924. Though it is intended primarily to deal with venereal disease, seamen will be able to obtain advice there for other ailments, including tropical diseases, before being referred to other institutions. The number of new cases of venereal disease dealt with at the dispensary

during 1924 was 428. A few years ago the Welsh sheep farmers suffered serious loss from the condemnation of their mutton at the Liverpool abattoir owing to the effects of liver fluke. The efforts of the Board of Agriculture to eradicate the disease in North Wales by spraying the pastures and brooks with chemical substances intended to destroy the water snail, which is the intermediate host of the liver fluke, have apparently been successful. The Welsh sheep now show remarkable freedom, though the Irish and Scotch sheep are severely infected. Of 3740 cows in the city cowsheds in 1924, 26 were found with tuberculosis of the udder. The bacteriological report on the examination of milk samples taken from bulk does not indicate that tubercle of the udder is getting less but rather that it is on the increase. Of samples of country milk examined during the eight years 1913–20, 6·4 per cent. were tuberculous, while for the four years 1921–24 the figure was 10·1. During 1924, 57 out of 549 "bulk" samples of country milk and 22 out of 232 "bulk" samples of city milk proved tuberculous (10·4 and 9·5 per cent. respectively).

Housing is still a serious problem in Liverpool, and the houses provided since the war have neither overtaken arrears nor met the needs of the growing population. An estimate is put forward that Liverpool is worse off now than it was at the end of 1914 by rather more than 10,000 houses.

Leeds.

Dr. J. Johnstone Jervis records the prevalence of influenza of a peculiarly malignant form at the beginning of the year. The deaths registered numbered 404, and the death-rate for the year (0·86) was the highest since the influenza years of 1918–19. During the epidemic the infant mortality-rate went up with a bound, and in the third week of February reached the phenomenally high figure of 321. The general death-rate rose to 38·4 in the first week of March and was 35·9 and 26·1 in the two subsequent weeks. Normal figures were reached about April. A good many cases ended fatally within 48 hours of the first symptoms. Some cases were removed to hospital, but as a rule too late to be of any use, and Dr. Jervis has not much faith in hospital removal for influenza complicated with pneumonia. He refers to the inadequate hospital accommodation provided for the city for non-infectious diseases. All the voluntary institutions have long lists of patients awaiting admission, whilst the Poor-law infirmaries are partially empty. The way out of the difficulty, says Dr. Jervis, is obviously to open the doors of the Poor-law infirmaries to the whole community. Atmospheric impurity in Leeds is getting less. The percentage of factory chimneys emitting dense smoke for more than three minutes during an hour's observation is also decreasing. Thus, the percentage from 1920–24 has been 12·4, 8·6, 7·1, 3·3, and 1·7. During these five years over 25,000 observations of one hour each have been made. Among 2063 cows in the city 13 cases of tuberculosis were found, in 5 of which the udder was affected, whilst the remaining 8 had generalised tuberculosis. There has been little advance in cleanliness of methods.

There were only seven (mild) cases of small-pox notified with no deaths, and Leeds also showed less increase in encephalitis lethargica than many other towns. The cancer death-rate was the highest ever recorded. The health committee have set up a special committee to inquire into the local incidence of the disease. Considerable progress has been made in the reorganisation of the tuberculosis scheme. A whole-time clinical tuberculosis officer has been appointed, and a sanatorium school for children with signs of early disease of a non-infective type has been opened at the Hollies, Weetwood. The provision of sanatorium accommodation for women and children is a matter of extreme urgency. Dr. Jervis is also of opinion that no tuberculosis scheme can be considered complete which does not find suitable remunerative employment under favourable conditions for the men and women who undergo sanatorium treatment. 993 new cases attended the 14 antenatal centres, and there were 8558 births. About 20 per cent. of the total births took place in institutions or nursing homes. The corporation have made arrangements for the provision of maternity beds at the three Poor-law union infirmaries. This scheme came into operation on April 1st and was not much used during the year. It is, however, expected that when the excellence of the accommodation becomes known the facilities will be utilised to the full. A special block at the city hospital has been opened for cases of puerperal sepsis. Cases of septic abortion and abscess of the breast will also be admitted.

The health committee have spent considerable sums during the year in providing convalescent home treatment for mothers and babies. The housing problem is as pressing as ever. Dr. Jervis points out that about two-thirds of all the deaths occur in back-to-back houses. He is unable, however, to give separate figures for the ancient and modern back-to-back houses. The modern ones, he says, are little different from "through" houses in healthiness, and this statement appears to be borne out by the figures of deaths, seeing that 77,790 of the 115,289 houses in Leeds, or very nearly two-thirds, are of the back-to-back type.

MENTAL HOSPITAL REPORTS.

Dorset finds that its mental patients are steadily increasing in number, especially the women, but *Dorset Mental Hospital* has still some of its 950 beds vacant. The recovery-rate for the year was 43 per cent. and the death-rate 7·44 per cent., a figure which, the superintendent complains, in common with so many of his colleagues, might be lower if the infirmaries were prepared to relieve the asylums of their unnecessary burden of senile cases. There was an epidemic of scarlet fever, introduced by a nurse, and over 100 persons were affected by a mild influenza epidemic in the spring. A visiting surgeon has recently been appointed and his services will be much appreciated. The dental surgeon has seen 193 patients during the year. Recent structural improvements include an automatic telephone system, a steam disinfector, and the installation of four special baths for continuous treatment. The hospital now has 70 additional acres of farm land which will be extremely helpful to the patients and organisation staff. Dorset county was one of the first to develop the important out-patient aspect of the mental work. The clinic at the Dorset County Hospital continues to flourish. The number of new cases is increasing and many patients discharged from the hospital report from time to time for advice or treatment. This is clearly a most valuable function of the clinic. The commonest type of out-patient is the anxiety neurosis. Parole is granted to 33 patients outside the hospital grounds and to 81 on the estate, and there are open-door wards and a club ward. The laboratory has been busy with routine examinations and three typhoid carriers have been detected, with the result that there has only been one case of typhoid in the hospital, whereas it used to be endemic. Investigation has been made into the urea-content of the blood in epilepsy.

Wilts County Mental Hospital has over 1000 patients under care. The recovery-rate was 27·7 per cent. and the death-rate 7·1 per cent. 44·4 per cent. of those who recovered were admitted in their first attack within three months of its onset. Almost all those discharged had a probationary period on trial and several of these were helped with a money grant. The general health during the year was good, but there were 12 cases of dysentery and two of typhoid fever, which has not yet been traced to its source. A cinematograph apparatus has been installed. The patients are encouraged to wear their own clothes, though at present only a small proportion are doing so. At present there is no laboratory.

Derby Borough Mental Hospital has had a recovery-rate of 10·7 per cent. for men and 53·3 per cent. for women, among its 400 patients. The death-rate was

8·6 per cent. and post-mortem examinations were held on all but one of the fatal cases. The general health of the patients has been good except for an epidemic of influenza. The recommendations of the "dietary" report of the Board of Control have been adopted to a large extent. Of the nursing staff, 63 per cent. on the male side and 24 per cent. on the female side hold the certificate of the M.P.A., a much higher figure than that for the country generally. Parole is allowed to a number of patients, and money allowances were granted to a few of those sent out on trial. There is at present no visiting specialist staff, not even a dentist. The borough has 42 certified mental defectives in its charge and, like so many other places, has continued difficulty in finding accommodation for urgent cases.

Roxburgh District Board of Control has published an annual report to May last. It maintains 350 patients in the asylum at Melrose. The female admissions are usually greater than the male, but this year they have been more than double. The recovery-rate was 31·3 per cent. and the death-rate 7·2 per cent. Influenzal attacks and a few cases of diphtheria were the only infectious diseases. The source of the diphtheria could not be traced. For two years in succession there have been no failures among the nurses sitting for the final examination of the M.P.A. The number of voluntary boarders shows a satisfactory increase.

INFECTIOUS DISEASE IN ENGLAND AND WALES DURING THE WEEK ENDED NOV. 7TH, 1925.

Notifications.—The following cases of infectious disease were notified during the week:—Small-pox, 56 (compared with 98 last week); scarlet fever, 2537; diphtheria, 1105; enteric fever, 69; pneumonia, 1016; puerperal fever, 51; cerebro-spinal fever, 11; acute poliomyelitis, 9; encephalitis lethargica, 40; dysentery, 8; ophthalmia neonatorum, 117. There were no cases of cholera, plague, or typhus notified during the week.

Deaths.—In the aggregate of great towns, including London, there were 3 deaths from enteric fever, 31 from measles, 14 from scarlet fever, 11 from whooping-cough, 31 from diphtheria, and 59 from influenza. In London itself there were 9 deaths from diphtheria and 26 deaths of infants under 2 years of age from diarrhœa and enteritis.

MEDICINE AND THE LAW.

Paraldehyde as a Dangerous Drug.—Mistaken Identity.

RECENTLY an inquest was held at Hammersmith upon the body of a man whose death was attributed by medical evidence to pneumonia accelerated by the use of paraldehyde. The deceased, it seems, had been addicted to cocaine until he had become the object of police-court proceedings under the Dangerous Drugs Acts; he had then turned to paraldehyde which, as a medical witness observed, can at present be bought without difficulty and should be placed under severe restrictions. The coroner, who recorded a verdict of death from misadventure, confirmed this opinion and remarked that the evidence showed that restrictions should be placed upon the sale of all drugs of a hypnotic nature.

There was one remarkable feature of the case. The dead man, it seems, used the name Geoffrey Wentworth Malim. The Medical Directory contains an entry of a doctor of that name. It thus happened that, when the inquest was opened, it was assumed that the body was that of Dr. Malim, and more than one newspaper report appeared under the headline "Doctor as Drug Victim." The inquest was adjourned. When it was resumed the West London coroner announced that it had now become known that the dead man's proper name was Samuel Neville Appleton. The real Dr. Malim had written to say that Appleton had used his name frequently, and had caused him much trouble by running up bills in that name.

The incident has two important aspects. There is the aspect personal to Dr. Malim, who is entitled to the amplest amends which publicity can make for the injury done to him by the dead man—an injury for which the law affords little remedy. Scotland Yard, it appears, had been notified by Dr. Malim four months earlier that this imposture was being carried on. It is unfortunate that the police authorities, through whom (in part, at any rate) the identity of Appleton was established at the inquest, should not have found themselves able to take action at the time. The other aspect of the case is general. The proceedings were reported, as already stated, under headlines which inevitably suggested that a member of the medical profession had abused the facilities which have been, and must be, entrusted to medical practitioners in respect of dangerous drugs. Three years ago the Home Office inserted in the Dangerous Drugs Regulations the sentence "the prescription shall not be given for the use of the prescriber himself." Considerable feeling having been aroused in the profession, the offending sentence was formally rescinded six months afterwards. Lest there should still be a tendency to distrust doctors in such matters, it is the more essential to emphasise the fact that the recent case was not that of a "Doctor as Drug Victim."

The Services.

ROYAL NAVAL MEDICAL SERVICE.

THE following appointments have been notified:—Surg. Comdrs.: C. G. Sprague to the *Emerald*; R. Kennedy to the *Ark Royal*; H. D. Drennan to the *Yarmouth* (on completing) to the *Hawkins*, and as Fleet Medical Officer; and W. L. Hawkins to the *Yarmouth*, for passage home. Surg. Lt. W. Young to the *Ark Royal*.

Surg. Lt. L. P. Spero, R.N.V.R., to be Surg. Lt.

ROYAL ARMY MEDICAL CORPS.

Maj. H. B. Kelly to be Lt.-Col., vice Lt.-Col. B. A. Craig to ret. pay.

Maj. M. Keane retires on retd. pay and is granted the rank of Lt.-Col.

Capt. R. I. Sullivan is secd. for service under the Colonial Office.

J. M. Johnston to be temp. Lt.

SUPPLEMENTARY RESERVE OF OFFICERS.

Lt. G. Marshall, late Temp. Lt., R.A.M.C., to be Lt.

TERRITORIAL ARMY.

Capt. J. L. Johnston (late R.A.M.C.) to be Lt., and relinquishes the rank of Capt.

Capt. A. R. Ross to be Div. Adjt., 56th (1st London) Div., T.A., vice Capt. G. G. B. Holroyde, R.A.M.C., who vacates that appt.

Capt. J. H. Fletcher, R.A.M.C., to be Div. Adjt., 48th (South Midland) Div., T.A., vice Capt. F. G. L. Dawson, R.A.M.C., who vacates that appt.

Supernumerary for Service with the O.T.C.: Lt. L. B. Maxwell to be Capt.

General List: 2nd Lt. A. Barr (late R.G.A.), to be Lt.

ROYAL AIR FORCE.

Medical Branch: Flight Lt. T. J. Thomas is promoted to the rank of Squadron Leader.

Flight Lt. (hon. Squadron Leader) E. A. Aldridge relinquishes his temporary commission on ceasing to be employed.

Flying Officer H. J. Henderson (temp. Lt., Dental Surgeon, General List, Army) relinquishes his temporary commission on ceasing to be employed.

INDIAN MEDICAL SERVICE.

Revised rates of furlough pay in India for regular executive officers of the I.M.S. in military employ have been announced.

Maj. W. G. Hingston is appointed Surgeon Naturalist Marine; Maj. G. Covell has been appointed temporarily to the Medical Research Department and posted to the Central Research Institute, Kasauli; Maj. S. S. Sokhey, who was one of the selected candidates for the Rockefeller Foundation Scholarship of 1922–23, has returned to India and has been appointed Medical Officer in Charge of the Biochemical Unit of the Haffkine Institute, Bombay; Maj. R. F. D. MacGregor, on return from leave, has been posted as Agency Surgeon, Bhopal; Col. R. P. Wilson, Acting Surgeon-General, has vacated his seat on the Bengal Legislative Council in favour of Maj.-Gen. R. Heard, who on return from leave has resumed his substantial appointment as Surgeon-General with the Government of Bengal; Lt.-Col. W. J. Powell, Inspector-General of Prisons, acts as Director of Public Health of the Central Provinces in addition to his own duties.

Correspondence.

"Audi alteram partem."

MEDICAL MANIFESTOES.

To the Editor of THE LANCET.

SIR,—During the past ten days I have received circular letters from two medical bodies. Each body proposes to issue a memorial or manifesto. One states that agreement will be assumed unless dissent is made. The other concludes: "If I do not hear from you by return of post I shall conclude that you are willing to allow your name to be published in this connexion." And accordingly the names of non-committed men will be attached to a manifesto to the lay press which begins: "We, the undersigned——." It seems to me that this procedure is wrong, and that if it be allowed medical manifestoes will be treated with contempt.

I am, Sir, yours faithfully,

N. BISHOP HARMAN.

Harley-street, W., Nov. 17th, 1925.

THE SANITATION OF DAVOS.

To the Editor of THE LANCET.

SIR,—As I had the privilege of representing Great Britain—if unofficially—along with Dr. Leonard Hill at the recent climatological congress in Davos, I should like to supplement the account of the climatic advantages of that place, described by Dr. Hill and Dr. Bernard Hudson in your issue of Oct. 24th, by a few remarks on its sanitation from the point of view of a medical officer of health.

On arriving there on August 13th last I was first struck by the general cleanliness and freshness of the town—a feature which I may say it has in common with most other towns and villages in Switzerland. The streets are wide, clean, well paved and drained, so that rain does not remain long on their surfaces. The hotels, sanatoria, &c., are supplied with the most modern sanitary fittings for baths and lavatories, and would satisfy the most exacting health officer. Somewhere about the commencement of 1900 the whole sewerage and drainage systems were thoroughly overhauled, and with the help of the swift mountain torrents and a good supply of water, both sewers and drains are kept thoroughly and regularly flushed. The drinking water is cool, sparkling, and most refreshing, and comes from gathering grounds in the mountains where risk of contamination is nil.

The most efficient and thoroughly up-to-date piece of sanitation I had the opportunity of examining was the system of collection and disposal of house refuse. In the first place, in 1913 Davos got a special Act of Parliament enabling the town council to acquire land, put up a refuse destructor, and provide for the collection and removal of household dust in suitable movable bins supplied by them. The working charges are provided for by levying a contribution on hotels, &c., according to the amount of household refuse removed. Non-compliance with this Act and the regulations made under it is punishable by a fine of from 5 to 50 francs.

The bins are cylindrical in form, the diameter at the top being 16¼ in., the bottom 15½ in., and the height 2 ft. 8 in. They are constructed of very strong galvanised iron, and have a tightly fitting lid, which *must* be kept closed when the bins are in use. In summer when full they are placed on a lorry which calls for them, and in winter these lorries are replaced by sledges. They are then driven to the railway station, placed on a special wagon and sent to the refuse destructor, which is attached to the gasworks in Laret, some six English miles away.

From the railway there is a special siding running into the destructor where the dustbins are unloaded. The destructor is of the high temperature type with forced draught, and after removal of the lid the bin is placed in a special mechanical contrivance in which it can be easily inverted, and by pulling out a damper which replaces the lid the whole of the contents fall through an opening of the same diameter as the bin, straight into the furnace. In this process not a particle of smoke or dust can escape while the bin is being emptied. The bin is again turned upright, removed from the holder, and placed in a washer, where it is thoroughly cleansed by boiling water. This is provided by a steam boiler attached to the furnaces. The whole destructor is really part and parcel of the gasworks, and the steam raised is used in the first place for driving the machinery of the destructor, and the surplus is passed on to the gasworks to assist in driving their machinery. If there is insufficient steam to drive the destructor the deficit comes from the gasworks. The cleansed bins are returned to the town as required, and a sufficient stock is kept by the council to leave empties as the full ones are removed.

Complete combustion of the refuse is the first consideration, and suitable mechanical arrangements are made for separating the clinker from the lighter materials, as well as dealing with gases. The main point seems to me is that the dust once it is deposited in the bins only leaves them to go direct into the furnace, and, therefore, no opportunity is given for fly breeding or nuisances being created in its handling or disposal.

I am, Sir, yours faithfully,

R. KING BROWN, M.D.

Bermondsey, Nov. 7th, 1925.

PARACUSIS WILLISII.

To the Editor of THE LANCET.

SIR,—Since Thomas Willis called attention to the phenomenon in the seventeenth century paracusis has been regarded as symptomatic of oto-sclerosis unaccompanied by labyrinthine involvement. The phenomenon is of value in diagnosing fixation of the stapes and in judging the prognosis of the case. The fact that the low-tone limit is raised while high tones are unaffected in purely obstructive deafness suggests that the ossicular chain is not a mere passive pathway for the conduction of sound waves, but plays an active part in rendering low musical tones perceptible. The individual with normal hearing regulates the force of his voice by his own perception; he instinctively raises his voice in a noisy circle. This is a striking example of Sherrington's "auditory and speech reflex." An oto-sclerotic, on the other hand, does not raise his voice in a noisy railway carriage, but persists in talking in a low well-modulated voice hardly audible to a companion. He maintains this characteristic tone whether talking in a noisy circle or a quiet room. Evidently the coarse vibrations of long amplitude produced by extraneous noises fail to stimulate the perceptive mechanism of an oto-sclerotic.

The oto-sclerotic, then, has certain advantages over one who has normal hearing. The coarse vibrations of long amplitude produced by railway trains and the like fail to reach his consciousness; he calmly concentrates on his friend's talk. Knowing his disability he pays greater attention to the conversation. The normal individual instinctively raises his voice in a noisy place to the great advantage of his oto-sclerotic friend, who is not disturbed by the extraneous noises quite to the same extent. Further, the man knowing that he is talking to one who is hard of hearing the normal individual sympathetically raises the force of his voice. All these factors, working together, enable the oto-sclerotic to follow conversation in a noisy circle with ease.

I am, Sir, yours faithfully,

J. M. DAMANY, M.B., B.S.

Oxford-road, Putney, S.W., Nov. 17th, 1925.

FOOD EDUCATION SOCIETY.

To the Editor of THE LANCET.

SIR,—Our late premises are coming down, but we have been fortunate in obtaining an office in the new Mary Sumner House of the Mothers' Union, between whom and ourselves there has been in the past cordial coöperation. The expenses of removal and furnishing and of notifying the press, members, and correspondents of our change of address are necessarily considerable. The Committee have accordingly resolved to raise, as in 1909, a special fund for the purpose. Moreover, in view of the gratifying testimony received from all parts of the world, including the formation of a branch for the State of Victoria, the Committee feel that the moment is opportune for an effort to free the society from a deficit—materially reduced, but still standing at £350—which is mainly the result of its labours for the prevention of dental disease. The service to the nation thus rendered has been recognised by the Dental Board of the United Kingdom (a Government body), on whose late advisory committee the society was represented, as likewise by the President of the British Dental Association and by Sir George Newman.

The society is also urgently in need of funds to reprint such favourites as "Economical Dishes for Workers" (over 100,000 sold), "Diet for Brain Workers," "Sugar, Why Worry About It?" "The Feeding of Nurses" (edition of 1000 exhausted), and to issue fresh publications, with reports of its many-sided activities.

Donations should be addressed to the Hon. Treasurer, Sybil, Viscountess Rhondda, at the undermentioned address.—We are, Sir, yours faithfully,

HARRY CAMPBELL,
Chairman.
H. BALDWIN,
Vice-Chairman.
SYBIL RHONDDA,
Hon. Treasurer.

24, Tufton-street, Westminster, S.W. 1.,
Nov. 13th, 1925.

PRE-CANCEROUS STATES.

To the Editor of THE LANCET.

SIR,—May I be permitted to supply a few additional details to the condensed report of my remarks in the course of the discussion on pre-cancerous states reported in THE LANCET of last week (p. 1022). When dealing with the changes found in chronic mastitis, and referring to the part played by the basement membrane in guiding us to form an opinion as to whether carcinoma is present in certain doubtful cases, I said:—

"In certain cases it will be found that—perhaps in one small area—this smooth regular band or limiting membrane is absent, the clumps of epithelial cells are lying loosely in cavities and not attached to the walls . . . the border-line has been crossed and carcinoma is present. . . . In such examples as I have endeavoured to outline above in which the main part of the section consists of inflammatory tissues and only a small portion is carcinomatous, it appears to me quite evident that inflammation has preceded the new growth. Carrying the argument a step further—the above evidence points clearly to the great probability that in many instances a breast affected with chronic inflammation is in a pre-cancerous state."

It will be seen therefore that my view is that in *many instances* breasts affected with mastitis are in a pre-cancerous condition; but, if we carry things back too far, we shall be placed in the position of having to state that everyone affected with some trifling inflammatory affection is in a pre-cancerous condition, which is absurd.

As to papillomata, it is obvious that when invasion of the deeper tissues by the superficial cells has taken place, carcinoma is already established. It is the presence in some papillomata of groups of squamous cells at the base lying in masses of small round inflammatory cells that suggests a pre-cancerous stage. I am, Sir, yours faithfully,

Royal Northern Hospital, Nov. 16th. ERNEST H. SHAW.

THE CINEMA IN NEUROLOGY.

To the Editor of THE LANCET.

SIR,—The writer of the annotation with the above title, which appeared in your issue of Nov. 7th, is in error when he states that the films exhibited in Paris by Dr. S. Philip Goodhart "are the only ones in existence dealing (from the technical aspect) with nervous disease." On the contrary, films of an analogous kind have frequently been made and used in this country, as is well known. As a single instance, I may mention those made by Dr. A. F. Hurst during the war and dealing largely with functional nervous disease. When delivering the Croonian lectures last summer before the Royal College of Physicians I exhibited two long films devoted entirely to the technical side of some neurological conditions, and included in them were sections made by the slow-motion camera.

I am, Sir, yours faithfully,
S. A. KINNIER WILSON.

Harley-street, W., Nov. 16th, 1925.

SPIRITUAL HEALING AND MODERN MEDICINE.

To the Editor of THE LANCET.

SIR,—Will you allow me to disclaim, in the most formal fashion, any but a few slight correspondences between the remarks attributed to me in THE LANCET of last week and those which I did make at a meeting of the Hunterian Society on Nov. 9th. My remarks were read from a typescript, now before me, which, after the meeting, was in the hands of the reporters present.

I understand, however, that the impossibility of forwarding a proof accounts for a version which substitutes the words *medical* for *metaphysical*, and *material grounds* for *ratiocination*, at the same time making use of expressions and phrases never employed by me during the debate. I did not say that psycho-analysts had shown that states of mind must be held responsible for many organic conditions. I did say that, as a result of the work of the Viennese psycho-analysts, it was beginning to be believed by many that states of mind must be held responsible for many bodily disorders and for at least the functional beginnings of organic disease. The point of a remark made to me not very long ago by the late Dr. Sidney Martin is completely destroyed. The old curé in "Maria Chapdelaine" (and no old French physician) said that while the doctors do what they can, only God understands diseases. He did not say that only God understands humanity. I said that longevity is marked and the standard of physical health extremely high amongst the Quakers; I did not say that the standard of health was nowhere so high as amongst the Quakers.

More importantly: I did not say that a belief in miracles was essential to the doctor's art. I said that the conception of miraculous healing, whatever the historical evidence, is as necessary to our philosophy of the healing art as is our knowledge of the reparative power possessed by the salamander or newt. Above all, far from saying that the miracle of healing represented the manifestation *in ourselves* of a certain power, I said that it represented, for the physician, the manifestation, *in the Absolute*, of a certain power!

There are many other errors and misleading paraphrases of my remarks in this report; may I beg, therefore, for lenient consideration at the hands of your readers?

I am, Sir, yours faithfully,
F. G. CROOKSHANK.

Wimpole-street, W., Nov. 16th, 1925.

*** Our reporter's claim to have given a very fair account of Dr. Crookshank's general attitude is supported by others who were present.—ED. L.

DEFECTIVE ILLUMINATION IN RELATION TO EYESIGHT.

To the Editor of THE LANCET.

SIR,—In an annotation with this title in your issue of Nov. 7th, referring to a bulletin issued by the United States Public Health Service, appears the rather contradictory comment :—

"We find no evidence that defective illumination is in itself a cause of permanent injury to the eyesight. . . On the other hand, there is plenty of evidence . . . that work for the eyes under defective illumination involves fatigue, and that this may cause permanent injury to 'weak' eyes."

Is this not rather quibbling with the original cause? It is quite possible that the only effect of defective illumination on good normal eyes might be fatigue, but even fatigue alone connotes lowered resisting power, and again how many eyes are normal? There is not an atom of doubt that defective illumination does accentuate eyestrain, such eyestrain being possibly produced by a very small amount of astigmatism or anisometropia or imbalance (not unbalance) of the muscles. The end-result of such a condition may show itself as (*a*) local disease of the eyes owing to lowered resistance to germs, some of which are always present producing some form of conjunctivitis, or even deeper trouble, such as cyclitis or even iritis; (*b*) general effects of eyestrain, due to loss of nerve energy, manifesting itself in headaches, insomnia, indigestion, &c. I look upon the recent improvement in the illumination of public buildings, offices, &c., as one of the very important methods of "preventive medicine."

I am, Sir, yours faithfully,

ERNEST CLARKE.

Chandos-street, W., Nov. 16th, 1925.

*** The harmfulness of defective illumination is agreed; it is surely of more than verbal interest to determine precisely how the harm is done. We do not share Mr. Clarke's objection to the American use of the word unbalance.—ED. L.

X RAYING OF TEETH.

To the Editor of THE LANCET.

SIR,—The letter from Sir Gould May in your issue of Oct. 31st raises two important points, on which, as a dental surgeon, I should like to comment. The two points are these: the value of radiographs of the teeth and reports based on the radiographic findings, and the significance of dental sepsis as a factor in general disease.

Concerning the first. Sir Gould May suggests very plainly that either radiographs of the teeth and jaws have little diagnostic value or else that the reports made by radiologists are made with so little judgment and knowledge that no reliance can be placed on them. I do not suppose that it is intended, but the letter could be read as though it were a reflection on the bona fides of radiologists. A dental radiograph, like that of any other part, is a shadow photograph in two dimensions of solid structures. Fallacies may arise which are due to distortion, though they may simulate a pathological condition, such as the appearance of the mental foramen which has before now been mistaken for apical rarefaction. There are also fallacies due to the technique which can mislead the unwary. A competent radiologist should, however, be able to eliminate such errors, and I doubt if many reports contain inferences which are based on an actual misinterpretation of the films. The report which accompanies the radiograph is not a diagnosis of the pathological conditions of the teeth and jaws, and never can be. It is an aid to diagnosis, and often of great value. Two factors go to the making of a good report of a dental radiograph—a sound technique and a thorough knowledge of the normal anatomy of the teeth and jaws, as well as of their pathology. Radiographs may be taken by radiologists who are medical practitioners, by dentists who usually limit themselves to dental radiology, though by training and usually by experience they are familiar with dental surgery in its clinical aspects; and by radiographers who have no medical qualification and whose knowledge of the anatomy and pathology of the teeth and jaws cannot be very extensive, though their technical achievements are frequently of a high standard. All three may take dental radiographs of great technical excellence, though candour compels me to state that not infrequently I have seen dental films taken by general radiologists so distorted that no report of any value could possibly be based on them. (This is not to be taken as a reflection on radiologists or as suggesting that only dental radiologists should take dental films.) Reports on films, however, vary much in their value. To the dentist familiar with the teeth they may add considerably to the value of the films or they may add nothing. Obviously the greater the knowledge of the anatomy and pathology of the teeth on the part of the radiologist, the better is his report likely to be. To the dentist the radiograph will always be of more importance than the report, for he should be in a position to interpret the films for himself, though I cannot agree with those dentists who tacitly regard the radiologist's report as unnecessary and without practical value.

Sir Gould May infers that the reports invariably state that disease is present. Does he think that radiologists have fallen into the habit of doing this as a routine, whether the films justify it or not, much as some osteopaths are said always to find displacement of the vertebræ? It must be remembered that when a patient is sent to have radiographs taken of the teeth there is generally primâ facie reason to suppose some degree of dental infection. But the real point is the degree of value attaching to a radiograph. It is an aid to diagnosis only. A diagnosis of the dental condition should be based on *all* the data available. It involves a clinical examination by a dentist with all the methods at his disposal. Among these radiography is of considerable value, but only when taken in conjunction with the clinical examination. Every dentist knows that a careful examination of the mouth may reveal more than a radiograph, though conversely the latter may reveal what a clinical examination is unable to detect. But often radiography is used as the only method of diagnosis, and hence, I believe, arise the difficulties to which Sir Gould May alludes.

It is becoming an increasingly common practice for doctors to send their patients direct to the radiologist for a film of the teeth. Armed with the radiologist's report, plus what he may discover (or imagines he discovers) by a casual inspection of the mouth, he will often condemn the teeth in advance and then send the patient to a dentist with a statement of what he considers should be done. I submit that this is the incorrect procedure, and must inevitably lead to blunders. The proper way would be for the doctor, who has reason to think that the patient's dental condition may be related to some ailment elsewhere, to send the patient first to his dentist with a request that the latter should investigate carefully the dental condition and report thereon to the doctor. The dentist will obviously get all the data available, including so valuable a procedure as a radiograph. His conclusions as to the conditions present, their pathological significance, and the best treatment to be pursued, may not be infallible, but they will be based on all the evidence instead of a part only. The doctor and dentist should work together as members of a team who have the common aim of desiring to better the bodily condition of their patient. This might not be always feasible, but often it could be done and it would be far preferable to rely on the imperfect evidence of radiography unbacked by the all-round examination of the dentist.

As to Sir Gould May's other point, the rôle of dental sepsis in disease, this is a vast subject. Admitting that the hypothesis of focal infection may have been pushed to too extravagant a length by some, yet there is a wealth of evidence to show that dental sepsis is often a potent factor in leading to a

widespread train of diseased conditions elsewhere. This in itself is a justification for the interest taken in this subject, though it does not justify a belief that extraction of the teeth is a panacea to be applied in every case of disease elsewhere.

I am, Sir, yours faithfully,

Wimpole-street, W., Nov. 14th, 1925. A. T. PITTS.

To the Editor of THE LANCET.

SIR,—It seems to me the real point at issue is not whether teeth should or should not be examined by X rays, or any other rays, but what use will be made of the information obtained. I have had much to do with Americans; they believe they can see further through a stone wall than most people, and have therefore a strong predilection to prophesy what they think is going to happen, and then to suggest treatment for the disease which will be present later on rather than to consider the complaint before them. In a consultant this power of prevision is invaluable; in the general practitioner it is very dangerous. For simplicity may I illustrate? My wife went to a dentist, who told her she had pyorrhœa and must have her teeth out. I gave her some quinine and sulphuric acid mixture, and sent her back in three months to have a tooth filled, when the pyorrhœa was gone. By all means use all these new powers we possess, but let us not forget to cure the patient. I am astonished at the number of people I meet who have no teeth, and yet are still suffering from the disease for which the teeth were extracted; in some cases simple medical remedies have removed the trouble. Cure of the patient should be our object rather than the diagnosis of disease, which is not always possible and is of little interest to the patient. Diagnosis is of great interest to the doctor, but the extraction of all the teeth is a method of diagnosis which is being carried too far to-day.

I am, Sir, yours faithfully,

Bournemouth, Nov. 16th. C. G. S. BARONSFEATHER.

DIALACETIN IN EPILEPSY.—Dr. C. Worster-Drought writes to correct the dosage of dialacetin in epilepsy contained in his letter which appeared in THE LANCET of Oct. 24th (p. 892). The dose of dialacetin should read: ½ to 1 tablet either at night, or twice daily, and not 1½ gr. as stated. Each tablet of dialacetin contains 4 gr. of allylparacetaminophenol and 1½ gr. of dial. The dose in epilepsy, therefore, is 2¾ to 5½ gr. of the combined substances at night only in nocturnal cases, and twice daily in others.

DONATIONS AND BEQUESTS.—Mr. W. L. Bowles, of Cardiff, has given £1000 to endow a bed at the Cardiff Royal Infirmary to commemorate his seventieth birthday.—Sir Robert Appleby Bartram, of Thornhill Park, Sunderland, has left by will £5000 to the Sunderland Royal Infirmary, and £5000 (additional) to the Sunderland Royal Infirmary for the Children's Hospital.—The West Riding Coalowners' Association has given £25,000 to the Leeds University Appeal Fund.—Mr. E. G. Bates, a former member of the Croydon Council, has given another £1000 for the pension fund for the blind which bears his name. Mr. Bates started the fund in 1919 with £3000, and has added to it since. The capital invested is now £8000.—Lady Rebecca Inglis, of Reigate and Bath, who left estate of £76,301, directed that her jewellery be sold and the net proceeds given to the Throat and Chest Hospital, Golden-square, London. She also left £1000 to the Reedham Hospital for Children, and £1000 to Dr. William Stanley Melsome, her medical attendant at Bath. After other bequests, the residue of her property—which will amount to about £50,000—to be equally divided between St. Dunstan's Hostel for Blinded Sailors and Soldiers, St. George's Hospital, the Middlesex Hospital, St. Bartholomew's Hospital, the Hounslow Hospital, the Reigate and Redhill Hospital, the Royal Blind Pension Society, the Royal Hospital for Incurables, the Orphan Working School, the Infant Orphan Asylum, and the London Orphan School, Watford.—The Refuge Assurance Company, Limited, has sent a cheque for £1000 to the Lord Mayor of Manchester for the Manchester Cancer Research Fund.—A cheque for £1547, the proceeds of a pageant in the Stretford area of Manchester, has been given to the Basford House Hospital, which will be officially opened in March next year.

Obituary.

JUAN GUITERAS.

THE death has occurred in Cuba of Prof. J. Guiteras, an authority on yellow fever and other tropical diseases, in his seventy-fourth year.

Juan Guiteras y Gener was born at Matanzas in Cuba in 1852. After being educated in Cuba he went to the University of Pennsylvania and became M.D. and Ph.D. in 1873. After six years as resident and visiting physician at the Philadelphia Hospital he served for ten years in different parts of America in the Marine Hospital Service. Later he became professor of pathology in the University of Pennsylvania, and in his writings and teaching laid especial and uncommon emphasis on the necessity for looking at pathological processes from a physiological viewpoint. From 1900 onwards he occupied the chair of general pathology and tropical diseases in Havana University, which was the first chair of its kind in America, and in 1909 became Director of Public Health of Cuba and President of the National Board of Health. Guiteras's name is chiefly associated with the campaign against yellow fever. He served as expert adviser in all the epidemics of this disease in the United States since 1881, and it was he who established the importance of yellow fever in children and of benign cases in propagating epidemics. He confirmed experimentally the work of the American Commission on the transmission of yellow fever by the mosquito, and by his active propaganda was able to win agreement for C. J. Finlay's original thesis that the disease was actually transmitted by the bites of the insect. On the staff of General Shafter in the Santiago campaign of 1898 he did good service, and was later given scope for his work under the Yellow Fever Commission set up by the International Health Board of the Rockefeller Foundation. The success of the antimosquito measures which he advocated in Cuba is shown by a decrease in the death-rate from yellow fever in Havana from 81 per 1000 in 1876, for instance, to nil in 1909. Guiteras's attention was, however, by no means confined to yellow fever. He was the first to demonstrate *Filaria bancrofti* in the United States and ankylostomiasis in Cuba. His wide interests and pioneering spirit were shown by his publication, in collaboration with Emilio Martinez, of the *Revista de Medicina Tropical*, which was the first journal of tropical medicine in the continent of America and the second in the world. Prof. Guiteras was a vice-president of the Association of Health Officers of North America, and was also well known in the United States for his interest in the political position of his native island. He was a cousin of the late Dr. Ramon Guiteras, urologist, of New York.

PROF. GUITERAS.

PROF. PAUL HEGER.

A GREAT physiologist and a distinguished Belgian savant has passed away by the recent death, the sad result of a motor accident, of Dr. Paul Heger, professor in the Faculty of Medicine of Brussels University. He was born in Brussels in 1846 and was the son of Prof. Constantin Heger, the friend and teacher of Charlotte Brontë.

Dr. Heger studied medicine in Brussels, and having graduated as M.D. began practice in his native city, directing his attention more particularly to the study of nervous diseases. Amongst his patients was

Mr. Ernest Solvay, and it was largely at his instigation that Dr. Heger relinquished the practice of medicine and resolved to devote himself to physiology. To this end he studied in Leipsic under Prof. Carl Ludwig in the mid-seventies and while there devoted special attention to the perfusion of blood through surviving organs, the particular problem he studied being perfusion of blood through the excised liver to determine to what extent nicotine was absorbed by the liver cells. He was appointed professor of physiology at the University of Brussels, a post which he held until 1907. In 1899 he became director of the physiological institute, which had been erected at the expense of Mr. Solvay in the Parc Léopold—an institute which was a veritable crystal palace, so excellent was the natural lighting. There he and his pupils carried out important work, and many of his researches were published in the *Archives Internationales de Physiologie*, of which he was joint editor with Prof. L. Fredericq, of Liège. On his retirement from the active pursuit of physiology he was appointed honorary professor and president of the University. During the war he took a leading part in the organisation of the medical equipment of the Belgian Army and busied himself in clinical work in the city of Brussels, where he was president of the clinic to which Miss Edith Cavell was attached, and it was he who brought her body to England.

Tall, erect, and of striking personality, Heger was adored by his pupils and assistants and beloved by all who knew him. He had a wonderful and entrancing power of graphic exposition of a subject, the problem in hand seeming to unroll itself with perfect lucidity. When, in 1912, the British Association met in Dundee, Prof. Heger was one of the foreign men of science on whom the University of St. Andrews conferred the degree of LL.D. His wife, who died several years ago, was the daughter of a banker in Brussels. He is survived by a son, who has made for himself a distinguished position in medicine in Brussels, being specially interested in medico-legal medicine.

GEORGE REID, O.B.E., M.D., C.M., D.P.H. ABERD.

Dr. George Reid, formerly medical officer of health to the Staffordshire County Council, died at Stafford on Nov. 7th at the age of 71. He was born in Aberdeen and studied medicine at the University of his native city, graduating M.B., C.M., in 1875, and M.D. in 1881. In 1890 he obtained the D.P.H. Aberd. and was appointed medical officer of health for Staffordshire County Council, an office which he filled for 32 years. Upon his retirement in 1922 he was appointed consultant medical officer to this county, which post he held at the time of his death. Dr. Reid also acted as school medical officer for Staffordshire, medical officer to the Staffordshire, Wolverhampton and Dudley Joint Committee for Tuberculosis, medical officer to the South Staffordshire Joint Small-pox Hospital Board, and examiner in State medicine to the Universities of Cambridge and Birmingham.

At the beginning of Dr. Reid's term of service to the county, Staffordshire had an unenviable record as regards the disposal of human excreta and refuse. Dr. Reid set his face firmly against pollution of rivers and streams, and under his direction the Public Health Committee of the council were successful in persuading the local authorities to disburse nearly two million pounds in schemes to purify the Staffordshire waters. The effect was soon apparent in a reduced typhoid mortality. The experiment in biological treatment of sewage at Hanley attracted much attention, and in 1906 he gave evidence before the Royal Commission on Sewage Disposal with reference to bacterial filtration of sewage, the outcome of which was the erection, at the instance of the Commission, of works to establish Dr. Reid's conclusions. He served also on the Departmental Committee on the use of lead in pottery which sat for two years and reported in 1910. He was early in the field with a scheme for the control of ophthalmia neonatorum. Dr. Reid was the author of a valuable text-book on "Practical Sanitation," which first appeared in 1892, with the primary intention of guiding sanitary inspectors in their work. Successive editions of this book, up to the twentieth in 1921, registered the progressive outlook of a public sanitary department. Dr. Reid was the originator of the Staffordshire or pavilion type of elementary school building, which has been extensively adopted in this country and abroad.

Dr. Reid was at one time president of the Society of Medical Officers of Health, and while holding this office he was associated with Sir Alfred Keogh, then Director-General of the Army, in organising the sanitary services of the Territorial Forces, and he was one of the first sanitary officers to be appointed with the rank of Major. In this capacity he served with the forces at the outbreak of war.

Dr. Reid, who was predeceased about a month ago by his wife, leaves a son and a daughter.

Medical News.

UNIVERSITY OF OXFORD: LECTURESHIP IN EMBRYOLOGY.—The University of Oxford has accepted a bequest by Mrs. Constance Jenkinson for the endowment of a lectureship in comparative and experimental embryology in memory of her husband, John Wilfred Jenkinson, of Exeter College, who was killed in the war.

UNIVERSITY OF CAMBRIDGE.—Applications are invited for a Pinsent-Darwin Studentship in Mental Pathology. The studentship is of the annual value of about £200 and is tenable for three years in the first instance. The student may be of either sex and need not be a member of the University of Cambridge. He shall engage in original research in Cambridge or elsewhere, but may, subject to the consent of the managers, carry on educational or other work concurrently. Further particulars may be obtained from the Registrary of the University of Cambridge, and applications for appointment should be sent before Dec. 1st, 1925, to the secretary, Pinsent-Darwin Studentship, Psychological Laboratory, Cambridge. This studentship was founded in 1924 by the benefaction of Mrs. Pinsent and Sir Horace and Lady Darwin for the purpose of promoting research into any problem which may have a bearing on mental defects, diseases, or disorders.—The Managers of this Studentship announce that they have given a grant to Miss M. F. Bridie of Birmingham, in order to facilitate her investigations as to the effect of education among the mentally deficient.

UNIVERSITY OF LONDON.—The extensions to the Department of Physiology at King's College have now been completed, and were formally opened on Nov. 6th by Emeritus Professor W. D. Halliburton, F.R.S. A reception was held in the new laboratories at which were present many well known physiologists and biologists. The new building will provide facilities for experimental research, for the teaching of advanced practical mammalian physiology, and a professor's room. In addition, the rooms formerly occupied by the Bacteriology Department have been taken over for biochemistry, the provision of animal and polarimeter rooms, and for a staff room and library. The reception was followed by a public inaugural lecture on Science and Culture by Mr. Julian Huxley, who has recently been appointed to the Chair of Zoology at King's College, in succession to the late Prof. Arthur Dendy, F.R.S.

St. Thomas's Hospital.—A lecture on the Earlier Inhabitants of London will be delivered by Prof. F. G. Parsons in the Governors' Hall, St. Thomas's Hospital, at 5 P.M. on Friday, Dec. 4th. During the lecture, which will be illustrated by lantern slides, skulls of the various people mentioned will be shown. Admission is free, without ticket.

Charing Cross Hospital Medical School.—The twelfth biennial Huxley Lecture on Recent Advances in Science in their Relation to Practical Medicine will be delivered by Sir Oliver Lodge, F.R.S., on Thursday, Dec. 3rd, at 3 P.M., in the Out-patients' Hall of the Hospital. Admission free (to medical men), without tickets.

A course of two lectures on the Efficiency of the Heart and its Measurement will be given by Prof. Yandell Henderson (Professor of Applied Physiology in Yale University) in the Physiology Theatre, University College, Gower-street, London, W.C. 1), on Nov. 30th and Dec. 1st, at 4.30 P.M. At the first lecture the chair will be taken by Prof. E. H. Starling, F.R.S. Admission free, without ticket.

The Schorstein Memorial Lecture will be delivered by Sir Humphry Rolleston on Dec. 4th, at 4.15 P.M., at the London Hospital Medical College on Lymphadenoma.

UNIVERSITY OF MANCHESTER. — The Knight Travelling Fellowship in Psychological Medicine has been awarded to Mr. L. C. Chevens, M.R.C.S. Eng., L.R.C.P. Lond., D.P.H. Manch., assistant medical officer in the Cheshire County Mental Hospital, Macclesfield.

UNIVERSITY OF GLASGOW.—The degree of doctor of medicine (M.D.) was conferred on the following candidates on Nov. 14th:—Hugh S. D. Garven, B.Sc., Ch.B. (with honours); Charles M. Smith, M.B., Ch.B. (with high commendation).

ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—As the result of the Final Examination, held from Oct. 6th to 29th, the following candidates were approved in the subjects indicated, but are not eligible for diplomas:—

Medicine.—B. W. Alexander, St. Bart.'s; R. E. Barrett, London; H. L. Belcher, Guy's; E. I. Bieber, Liverpool; Hilda M. P. Bond, St. Mary's; R. Broomhead, Leeds; P. R. Buckton and J. C. K. Chilcott, King's Coll.; J. H. Chitty, Guy's; Olive C. Crowley, Charing Cross; T. W. Davies, Cardiff; T. E. Davies, St. Thomas's; Elaine O. H. Earengey, Univ. Coll.; R. Edmondson, Manchester; J. A. Eyres, King's Coll.; R. A. Fitzsimmons, Charing Cross; Rachel D. Fox, Royal Free; J. Freudenheim, Charing Cross; S. C. Gawne, Liverpool; P. J. Gonsalves, Guy's; R. M. Greenop, King's Coll.; H. L. Groom, Univ. Coll.; A. A. M. Groot, Leiden and Westminster; B. Guyster, London and King's Coll.; Kathleen M. Halloran, Calcutta; K. A. Hamilton, St. Bart.'s; H. G. Harvey, St. Thomas's; G. F. Henderson, Univ. Coll.; T. H. Hobbes, St. Bart.'s; J. E. Howard, St. Mary's; Mary H. McC. Huggett, King's Coll.; B. D. Jain, Charing Cross; Edith M. Little, Katharine G. Lloyd-Williams, and Marjorie Low, Royal Free; Elsie Lyon and Margaret B. MacDonald, Charing Cross; G. L. M. McElligott, St. Thomas's; Evelyn T. D. Maclagan and Mary A. Marshall, St. Mary's; E. H. Moir and J. E. C. Morton, St. Bart's; E. R. Owen, Liverpool; B. N. Pajnigar, London; J. G. Paley, St. Bart.'s; H. A. Picton, Birmingham; D. C. Price, St. Bart.'s; E. K. Pritchard, St. Thomas's; Henrietta Procter and Muriel A. Pugh, Charing Cross; J. H. Randall, Univ. Coll.; Margaret G. P. Reed, King's Coll.; H. G. St. M. Rees, Cardiff; R. P. Ross, King's Coll.; D. W. Seth-Smith, St. George's; W. D. Sheldrake, Guy's; Nancie A. Simmons, Charing Cross; Beryl M. Stevens, Royal Free and St. Mary's; R. D. Summers, London; E. M. Town-Jones, Leeds; Mary M. Tulloch, Charing Cross; Aimee A. L. Vaillant, Charing Cross and Liverpool; H. D. Weatherhead, St. Thomas's; Gwendolen I. Wilkins, Royal Free; Beatrice A. Wilkinson, King's Coll.; Jane C. Williams, St. Mary's; J. E. B. Williams, Univ. Coll.; J. H. Williams, Cardiff; and Eileen C. Wise, King's Coll.

Surgery.—C. E. Allen, Guy's; F. J. Bach, St. Bart.'s; M. Behr, Middlesex; H. L. Belcher, Guy's; R. H. Bettington and M. S. R. Broadbent, St. Bart.'s; G. H. Brown, Liverpool; H. A. Bulman, Middlesex; A. Byrne-Quinn, St. Thomas's; H. A. Byworth, St. George's; G. P. Chandler, A. L. Canby, and R. Childs, St. Thomas's; J. H. Chitty, Guy's; Violet H. Comber, Univ. Coll.; A. B. Connell, St. Thomas's; F. R. Corfe and J. B. Crabtree, St. Bart.'s; B. B. Dalal, Univ. Coll.; L. Dass, Middlesex; S. T. Davies, Univ. Coll.; A. C. de Sousa, Middlesex; T. S. Dewey, St. Thomas's; R. P. S. Edden, St. Mary's; D. C. McC. Ettles, Guy's; S. H. Evans, Sheffield; B. Fink, Manchester; E. L. Fothergill, St. Thomas's; W. L. Gillbard, St. Bart.'s; A. P. Gorham, Bristol; C. R. M. Greenfield, St. Bart.'s; T. R. Hill, Guy's; W. S. Hinton, St. Bart.'s; F. R. How, St. Thomas's; N. C. Hypher, London; R. J. Isaac, St. Mary's; K. N. Isherwood, Leeds; T. Jones, Cardiff; F. J. L. Lang, St. Mary's; F. W. Law, Middlesex; J. R. E. Lee, Liverpool; H. P. Lehmann, St. Bart.'s; E. A. Lewis, St. George's; P. C. K. Lewis, Birmingham; R. A. V. Lewys-Lloyd, St. Bart.'s; G. F. H. McCormick, Univ. Coll.; E. H. Mackenzie, St. Thomas's; A. R. Marsh, Guy's; I. O. Martin, Cardiff; S. R. Matthews, Middlesex; W. Mayne, Guy's; C. A. L. Meredith, Middlesex; H. L. Milles, King's Coll.; J. Mintzman and E. F. Morton, Middlesex; A. H. Musgrove, Guy's; H. P. Nelson, St. Bart.'s; C. S. Netscher, St. Mary's; D. A. Newbery, Guy's; C. B. Nicholson, Middlesex; J. R. P. Norman, Birmingham; C. E. Ogden and R. Okell, St. Bart.'s; Maud Palmer, Royal Free; S. C. St. G. C. Parry, Middlesex; W. E. Parry and P. H. Perkins, London; R. K. Phillips, Bristol; N. R. Pooler, St. Mary's; J. H. Randall, Univ. Coll.; W. H. G. Reed, King's Coll.; L. A. Richardson, St. Thomas's; O. Richardson, St. Bart.'s; J. H. Ripka, London; L. Roberts, Middlesex; G. E. Rowan, St. Thomas's; E. S. Rudaizky, Guy's; S. E. Saint, London; J. W. Schabort, Guy's; G. Schewel, Westminster; J. W. Schofield, Middlesex; J. A. Screech, St. Thomas's; M. Shlosberg, Manchester; D. P. Simpson, St. Bart.'s; J. F. Simpson, St. Mary's; B. Singh, Leeds; W. S. Slater, Manchester; E. V. Slaughter, Middlesex; Beatrice G. Smith, Univ. Coll.; C. E. R. Stephenson, St. George's; Dorothy S. Tait, St. Mary's; M. Taylor, Charing Cross; J. G. T. Thomas, St. Mary's; G. O. Tippett, St. Thomas's; H. Walden, Leeds; N. Wassif, Charing Cross; Janet Welch, Royal Free; J. G. Wigley, St. Thomas's; J. I. Williams, Middlesex; H. Williamson, King's Coll.; J. Wiseman, Guy's; H. R. Youngman, St. Thomas's; A. M. M. Zelwer, St. George's; and A. B. Zambler, Middlesex.

Midwifery.—P. W. A. Agnew, St. George's; M. T. Aung, Guy's; J. D. Bailey, St. George's; G. N. Beeston, Charing Cross; V. C. Benson, Guy's; R. H. Bettington, St. Bart.'s; Hilda M. P. Bond, St. Mary's; J. D. Borham, Middlesex; K. J. Box, St. Thomas's; P. R. Buckton, King's Coll.; R. H. Burns, London; C. H. Burridge and A. Byrne-Quinn, St. Thomas's; C. J. N. Cameron, Univ. Coll.; Elizabeth J. Carpenter, Royal Free; Pamela M. G. Churchill, King's Coll.; J. H. Clapp, London; Evangeline A. Clark and Enid Clarke, Royal Free; Violet H. Comber, Univ. Coll.; F. R. Corfe, St. Bart.'s; A. R. Cox, Guy's; Lucy M. Cranage, Royal Free; G. H. Crisp, St. Bart.'s; S. D. Dalal, Bombay; K. E. D. Dauncey, King's Coll.; T. W. Davies, Cardiff; H. G. de Silva, Ceylon and Middlesex; A. C. de Sousa, Middlesex; C. W. L. De Souza, St. Bart.'s; G. C. Dewes, St. George's; Helen L. Dunn, Charing Cross; Elaine O. H. Earengey, Univ. Coll.; J. A. Edward, St. Bart.'s; G. Edwards, St. George's; D. C. McC. Ettles, Guy's; J. P. Evans, Charing Cross; J. C. Fast, Guy's; C. Fernando, Ceylon; Alice B. Field, King's Coll.; R. A. Fitzsimons, Charing Cross; E. L. Fothergill, St. Thomas's; Rachel D. Fox, Royal Free; L. W. Freeman, St. Mary's; Z. A. Goma, Birmingham; P. J. Gonsalves, Guy's; J. A. Gornall, Manchester; E. C. Grant, Otago; A. F. W. Hall, Guy's; R. N. Hall, St. George's; C. W. Harrison, Los Angeles; R. A. Haythornthwaite, Westminster; H. J. Heathcote, St. Bart.'s; A. H. B. Heesom and C. A. N. Hicks, Guy's; Catherine E. Hill, Royal Free; G. G. Hill, London; T. R. Hill, Guy's; N. M. Hodivala, Bombay and London; W. Holdsworth, St. Bart.'s; H. O. Hopkins, Middlesex; S. Howard, London; E. G. Howe, St. Thomas's; J. H. Howells, Cardiff; M. L. Hutchinson, Guy's; N. C. Hypher, London; K. N. Isherwood, Leeds; J. H. F. Jayasuriya, Middlesex; Iris A. Jenkin Lloyd, Royal Free; A. J. Johnson, St. Bart.'s; E. C. Johnson and Margaret E. Jones, St. Mary's; J. Kahanas, London; J. A. Kerr, Birmingham; W. A. Kerr, King's Coll.; T. P. Lalonde, Bristol; Alice B. Laker, Charing Cross; Mary Langdon-Down, Royal Free; J. R. E. Lee, Liverpool; W. Leslie, Guy's; R. A. V. Lewys-Lloyd, St. Bart.'s; Edith M. Little, Royal Free; D. G. Lloyd, London; Katharine G. Lloyd-Williams and Marjorie Low, Royal Free; W. S. Maclay, St. Bart.'s; G. F. H. McCormick, Univ. Coll.; S. M. Mallick, A. R. Marsh, and C. W. Marshall, Guy's; W. N. Mascall, St. Thomas's; A. N. Mathias, St. Mary's; Bertha I. Meyer, Royal Free; D.E. J. Mitchell, Manchester; Mary S. Mitchell, St. Mary's; J. W. Monro, London; Anna P. Montgomery, Charing Cross; M. N. Nicolson, Sheffield; J. R. P. Norman, Birmingham; H. P. O'Keeffe, London; E. N. O'Neill, St. Mary's; T. C. Pain, Guy's; B. N. Pajnigar, London; F. Parker, St. Bart.'s; W. E. Barry, London; L. L. P. Paterson, St. Mary's; Isabel D. Patterson, London; N. J. Petitmangin, Royal Free; H. A. Picton, Birmingham; J. C. C. Poole, St. Bart.'s; W. G. Porter, Guy's; Dorothy F. Pratt, Royal Free; E. N. Price, St. Mary's; Henrietta Procter, Charing Cross; E. I. Puddy, St. Mary's; M. Ragheb, Univ. Coll.; K. S. Rao, Madras and London; M. M. Raouf, Cairo; H. G. S. M. Rees, Cardiff; D. V. Rice, London; Hilda M. Richards, Royal Free; O. Richardson, St. Bart.'s; N. Rizkalla, Manchester; K. Roberts, Liverpool; R. I. Roberts, Manchester; E. Robinson, E. H. Roche, and E. S. Rudaizky, Guy's; Audrey E. Russell, Univ. Coll.; Mona M. Russell-Cruise, St. Mary's; H. W. Sadlier, St. George's; S. E. Saint, London; W. E. Savage, Manchester; J. W. Schabort, Guy's; G. Schewel, Hamburg and Westminster; R. Schofield, Guy's; Helen D. S. C. Scott, Charing Cross; Evelyn I. M. Sheppard and H. L. Shimmin, Manchester; C. W. Simpson, London; Beatrice G. Smith, Univ. Coll.; G. H. A. Soysa, Ceylon; W. E. Snell, Univ. Coll.; Dorothy E. Stewart, Royal Free; C. N. Suter, St. Mary's; A. G. S. Tabb, Charing Cross; J. W. de W. G. Thornton, King's Coll.; G. O. Tippett; St. Thomas's; H. A. Tracey, St. Bart.'s; S. D. H. D. Wallis, Guy's; N. Wassif, Charing Cross; Edith M. Webb and Gwendolen I. Wilkins, Royal Free; D. A. J. Williams, G. P. Williams, and J. H. Williams, Cardiff; L. S. Williams, Guy's; and Joan Worsfold, Royal Free.

THE King has granted to Dr. James Ferguson Lees, C.B.E., lately Director-General of Public Health, Ministry of the Interior, authority to wear the decoration of the Order of Ismail (Insignia of the Second Class) conferred upon him by the King of Egypt, and granted to Dr. Robert Stewart Miller, Director of the Egyptian Hospital for the Insane at El Khanka, authority to wear the Insignia of the Fourth Class of the Order of the Nile, conferred upon him by the King of Egypt.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At an ordinary meeting of the Council of the Royal College of Surgeons on Nov. 12th, Sir John Bland-Sutton, President, in the chair, Mr. James Sherren was elected a member of the Committee of Management of the Examining Board in England. The President reported that at a meeting of the Executive Committee of the Streatfeild Research Fund on Oct. 7th Mr. Norman L. Capener, F.R.C.S., was appointed the third Streatfeild Scholar, the subject of his research being the Comparative Anatomy and Function of the Prostate Gland. A letter was read from Mr. Hugh Lett, resigning his membership of the Court of Examiners. The President reported that Mr. C. H. Fagge's term of office on the Court of Examiners would expire on Dec. 9th, and that the vacancy thus occasioned, together with that occasioned by the resignation of Mr. Lett, would be filled up at the ordinary Council on Dec. 10th. Diplomas of Member were conferred upon 204 candidates, whose names were given in THE LANCET of Nov. 7th (p. 996).

CLOSE OF CONSUMPTIVE COLONY HOSPITAL.—The Cumberland County Council have decided to close the Englethwaite Industrial Colony for the After-care of Consumptives, which last year cost the council £6800.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.—A meeting of the Fever Hospitals Medical Service Group will be held at the Society's House on Nov. 27th, at 3 P.M., when a paper on the Dick Test by Dr. R. A. O'Brien and Dr. C. C. Okell will be read.

KING'S COLLEGE HOSPITAL.—The annual report of King's College Hospital, which has just been issued, states that as the result of the recent special appeal, the outstanding liabilities, which were £36,000 at the beginning of the year, have been reduced to less than £15,000. Forty additional beds have been maintained in occupation.

ROYAL SANITARY INSTITUTE.—A sessional meeting of the Institute will be held on Friday, Nov. 27th, at 8 P.M., and on Saturday, Nov. 28th, at 10 A.M., in the Town Hall, Plymouth, when discussions will take place on the Disinfection of Ships, to be opened by Dr. G. A. Borthwick, port medical officer, and Some Points in Public Health Propaganda, to be opened by Dr. A. T. Nankivell, medical officer of health. The chair will be taken at 8 P.M. on Friday by Dr. W. J. Howarth. Those proposing to attend should notify the hon. local secretary, Dr. Nankivell, Plymouth, not later than Nov. 21st.

Messrs. Heffer and Sons, Cambridge, announce that they have in the press a volume by Dr. G. W. Nicholson entitled "The Nature of Tumour Formation: the Erasmus Wilson Lectures, 1925." The object of the lectures is to correlate knowledge of the cellular changes which result in tumour formation with the established facts of biology and physiology. The Oxford Medical Publications, London, are publishing a book by Mr. G. R. Girdlestone, B.M., F.R.C.S., on "The Diagnosis and Treatment of Tuberculosis of the Hip," which is an attempt to show how the objective of "a permanently safe and useful limb" may be reached by the safest and most direct route.

BELFAST MATERNITY HOME.—The Duchess of Abercorn last week paid a visit of inspection to the Belfast Maternity Home. In a speech she expressed her amazement that there are only 26 maternity beds to serve the whole Province of Ulster. Dr. R. W. Livingstone, Vice-Chancellor of Queen's University, stated that the conditions in which lectures are given to students at the Maternity Hospital were deplorable, and that the students were gravely handicapped in this branch of their training. He considered that the hospital was worthy neither of Belfast nor its staff, but Prof. J. A. Lindsay, the chairman of the Board of Governors, expressed the opinion that before a remedy was possible there would need to be better public recognition of the work of the hospital.

CRIPPLED CHILDREN IN WALES.—A meeting of representatives of county and local authorities in North Wales was held at Wrexham on Nov. 6th. The gathering was large and representative, being attended, amongst others, by Dr. D. Llewellyn Williams, chief medical officer of health for Wales, and Mr. Howell James, secretary of the Welsh Department of the Ministry of Health, presided. Sir John Lynn-Thomas urged the need for early treatment of the crippled child by persons specially trained to undertake it, and expressed the hope that provision would be made in the Prince of Wales Hospital, Cardiff, for the training of surgeons in orthopædic surgery. It was decided to form a Welsh branch of the Central Council for the Care of Cripples.

A PIONEER OF OPEN-AIR TREATMENT.—A complimentary dinner was given at Shrewsbury on Nov. 7th to Miss Agnes Hunt, the founder of the Baschurch Surgical Home, which has now developed into the Shropshire Orthopædic Hospital. Among those present were Mr. W. C. Bridgeman, First Lord of the Admiralty, presiding, and many distinguished surgeons. Sir Robert Jones said Miss Hunt's methods, once described as visionary, were being imitated all over the world, not only in open-air treatment, but also in the establishment of after-care centres. Sir William Wheeler described Miss Hunt as the Florence Nightingale of the crippled children's world—"her lamp was the sun." At Baschurch, in 1900, half a dozen children were accommodated in an improvised shed in a garden, and now the institution, which took over the old war hospital at Park Hall, Oswestry, in 1920, accommodated some 340 patients from all parts of the country. Lord Kenyon presented Miss Hunt with a cheque for 1000 guineas and an illuminated album. There were over 500 subscribers to the testimonial—a gift of gratitude for 25 years' service for humanity whereby many thousands, apparently doomed to cripplehood, had been restored to strength and vigour.

MANCHESTER: NORTH-WESTERN TUBERCULOSIS SOCIETY.—A meeting of this society will be held on Nov. 26th at the Tuberculosis Offices, Joddrell-street, Deansgate, Manchester, when Dr. G. E. Loveday will read a paper on Vaccine-therapy with Special Reference to Tuberculosis.

IRISH MEDICAL SCHOOLS AND GRADUATES' ASSOCIATION.—The autumn dinner of this Association will take place at Pagani's Restaurant, Great Portland-street, London, W., on Wednesday, Nov. 25th, at 7.30. Tickets may be obtained from Dr. J. F. Peart, 5, Harley-street, W. 1. The guest of the evening will be the Right Hon. Charles Andrew O'Connor, P.C.

FRENCH MEDICAL CRUISES, 1926.—The Compagnie des Messageries Maritimes have again organised two special cruises to the Mediterranean for members of the medical profession, to leave Marseilles on March 9th and April 21st, 1926, respectively, each tour occupying 30 days. Full particulars of these special cruises, as well as of other tours, can be obtained at the London offices of the company, 72–75, Fenchurch-street, E.C. 3, and 62, Pall Mall, S.W. 1.

PORTMADOC HOSPITAL.—This war memorial, established six years ago, has proved so useful that it has been decided to add new buildings. A site has been presented free by Dr. Richard Griffith, J.P., of Portmadoc. Donations of £200 have been received from Mr. J. E. Greaves, Lord-Lieutenant of Carnarvonshire, and £100 each from Mr. R. M. Greaves and Mrs. Charles Breese.

BRISTOL HOSPITALS CONTRIBUTORY SCHEME.—Last year the total deficit on the working of the six Bristol hospitals was approximately £30,000. It has therefore been decided to establish a contributory scheme, and it is hoped to make arrangements with the participating institutions whereby persons with incomes exceeding £300 may, on payment in advance of £1 per annum, join a central association and receive the same benefits as the ordinary contributor.

HOSPITALS AND MOTORING ACCIDENTS.—At the anniversary meeting of governors of Nottingham General Hospital, Mr. James Forman, the President, pointed out that motor-car accidents represented 25 per cent. of the total casualty cases. He added that if there were as many admissions of victims of motor accidents in proportion during the next 12 months as there have been during the last eight, 2200 bed days would be occupied by them, and that there would be 190 patients in this category.

ROYAL NORTHERN HOSPITAL, LONDON.—In aid of the hospital a fancy dress ball was held in the Royal Albert Hall on Nov. 12th. The date originally fixed was Armistice night, Nov. 11th, but this was subsequently changed to the following night. The ball, which was under the chairmanship of the Duchess of Sutherland, was a brilliant spectacle, the chief guest being H.R.H. the Prince of Wales. The extent to which the hospital benefited financially from this function will be announced later.

ROYAL MEDICAL BENEVOLENT FUND.—The treasurer (Sir Charters Symonds, 11, Chandos-street, W. 1) appeals for £350 to enable the committee to distribute to the annuitants and some of the most necessitous grantees a Christmas gift of 25*s*. Last year the remnant of the Dinner Fund (raised in 1913) was used for this purpose, and though subscriptions are coming in satisfactorily, the exhaustion of this "nest-egg" makes it difficult to meet this extra expenditure.

DUBLIN: NATIONAL MATERNITY HOSPITAL.—At the annual meeting of the National Maternity Hospital held last week it was reported that 871 patients had been admitted to the maternity wards during the year, and 402 to the gynæcological wards. In addition, 710 patients were attended at their own homes. It has been found impossible for the hospital to carry on its work without extension, and a site for extension has been obtained by the purchase of several adjoining houses. A sum of at least £10,000 will be necessary, however, before building can be undertaken. An appeal is now made for this sum.

PLYMOUTH MEDICAL SOCIETY.—At a recent meeting of this society the following officers were elected for the session 1925–26:—President, Mr. Gerald Robinson; vice-presidents, Mr. C. L. Lander and Dr. Colin Lindsey; hon. treasurer, Mr. J. Elliott Square; hon. librarian, Mr. H. Guy Ludolf; hon. secretaries, Mr. Cecil B. F. Tivy and Mr. James Riddel. Members of Council: Dr. R. J. Percy Thomas, Mr. H. F. Vellacott, Dr. T. M. Jamieson, Dr. A. Bertram Soltau, Dr. Eric Wordley, and Dr. R. H. Wagner. The library and rooms of the society are at Beaumont House, Plymouth.

Dr. John Divine, J.P., barrister-at-law, has been appointed coroner for Hull.

HOSPITAL OF ST. JOHN AND ST. ELIZABETH.—The new operating theatre, isolation ward, and X ray department at the Hospital of St. John and St. Elizabeth, Grove End-road, were formally opened last month by Cardinal Bourne. The theatre wing contains the operating theatre, a nurses' room, a large anæsthetic room (which is also used for minor operations), a wash-up room, a surgeons' disrobing room, a surgeons' dressing room with shower bath attached, and a store room; all the rooms lead off from a broad central hall. One of the features of the operating theatre is the apparatus for hot and cold sterile water and saline solution, which is fixed in the sterilising room and has pipes carried through the wall into the theatre. The theatre, one of the most up to date in England, has been built and equipped through the generosity of Mrs. H. G. Tetley, in memory of her late husband, Henry Greenwood Tetley. The architect is Mr. Keith Young, and the total cost of building and equipping was about £10,000. Mrs. Tetley has also endowed two private rooms in the hospital so that the board of management are able to receive, at an inclusive fee of £2 10s. weekly, patients whose circumstances do not admit their paying ordinary fees charged for private rooms. The isolation ward was erected through the generosity of Miss Winifred Berthe de La Chere. The X ray department, which was recently built by subscriptions collected by the chairman, Sir Charles Russell, is fitted with the latest appliances, and has photographic, treatment, and developing rooms. At the opening ceremony Mrs. Tetley and Miss de La Chere were presented with inscribed keys, and a reception was held in the hospital afterwards. Amongst those present were Viscount Fitzalan of Derwent (president of the hospital), Adele, Countess Cadogan, and the members of the board and honorary staff.

Parliamentary Intelligence.

HOUSE OF COMMONS.

MONDAY, NOV. 16TH.

PARLIAMENT reassembled after the summer recess.

Medical Enlistment for the Services.

Colonel DAY asked the Secretary of State for War whether any agreement had yet been reached with the British Medical Association in regard to their action affecting the enlistment of medical men into the Royal Army Medical Corps.—Sir L. WORTHINGTON EVANS replied: The pay and conditions of service of medical officers in the Navy, Army, and Air Force are being examined by an Inter-Departmental Committee appointed by the Government. The Committee has authority to take evidence from outside the Government service, and will, I understand, obtain the views of the British Medical Association on the subject.

Penal Reform.

Colonel DAY asked the Home Secretary whether the International Prison Commission, held in London during August, made any recommendation as to penal reform; and, if so, what recommendations were likely to be carried into effect.—Sir W. JOYNSON-HICKS replied: The proceedings of the Congress and the resulting resolutions will, it is hoped, be published shortly by the Secretary-General, Prof. Dr. Simon van der Aa, K.B.E., of Holland, when they will receive my careful consideration.

Progress in Housing.

Captain BOWYER asked the Minister of Health how many houses had been sanctioned, were being built, and had been completed under the Housing Acts of 1923 and of 1924 respectively.—Sir KINGSLEY WOOD (Parliamentary Secretary to the Ministry of Health) replied: On Nov. 1st the position under the Housing Acts of 1923 and 1924 was as follows:—

	Act of 1923.	Act of 1924.
No. of houses completed ..	116,811	15,122
No. of houses under construction	42,601	30,956
No. of houses definitely arranged for but not started	29,840	24,046
No. of houses authorised but not definitely arranged for ..	49,036	20,202
Totals (No. of houses authorised)	238,288	90,326

TUESDAY, NOV. 17TH.

Use of Insulin in Scotland.

The House considered the Public Health (Scotland) Amendment Bill on report. This measure authorises local authorities under the Scottish Public Health Act of 1897 to make arrangements for providing medicines and treatment to persons suffering from diabetes.

Dr. SHIELS moved, at the end of Clause I., which is the operative clause, an amendment providing that the Scottish Board of Health should require the local authority to arrange that any medicine used for the treatment of persons suffering from diabetes and who, in the opinion of the local authority, required assistance in obtaining such medicines and treatment, should be dispensed by a registered pharmacist, or by a registered medical officer or practitioner. He said insulin ought to be distributed under medical supervision. That precaution, he said, was already taken by the Poor-law authorities and under the National Health Insurance Acts. He did not see why the poor people who were to receive the insulin under this Bill should not have the same definite safeguards as others. Insulin was a very dangerous drug and unless it was distributed with care the results might be very serious.

Sir J. GILMOUR (Secretary for Scotland) said he was unable to accept the amendment. They all wished to see that the greatest safeguards were observed in the use of this drug. It was manufactured in bulk and sold in closed capsules. It was prescribed by a doctor, and at a certain stage of the treatment it might under careful medical directions be administered by the patient. So far as its purity was concerned it did not matter whether it was handed by the local chemist over the counter or dispensed by the local authority at their clinic. It could not be said that the risk of its being mishandled was any greater under the Bill than in the way proposed by the amendment. They were desirous that the Scottish Board of Health, working through the local authorities, should be able to dispense insulin at a price which would bear a fair comparison with that at which it could be obtained from a chemist's shop. The chemist would, of course, have to make a certain profit.

Sir A. SINCLAIR asked if there was any risk of deterioration in capsules and had not chemists previously been able to detect this fact and had they not rejected some of the supplies?

Sir J. GILMOUR said deterioration of the drug could not be detected by the local chemist.

Mr. WESTWOOD asked for a guarantee that only those persons properly qualified under the Pharmacy Acts should be allowed to manufacture insulin.

Sir J. GILMOUR said that he appreciated very much the natural and proper desire of Members to see that every precaution was taken in regard to the manufacture of this drug. He could give a guarantee that it was manufactured directly under the supervision of the Medical Advisory Council. So far as the handling and manufacture were concerned that was done by properly qualified people. The Bill dealt not with the manufacture but the distribution of the drug, and that was done in glass capsules so that the drug was properly protected.

Dr. SHIELS's amendment was rejected without a division.

On the motion for the third reading of the Bill,

Mr. W. ADAMSON said that although the Labour Party supported the Bill, they regretted that it was limited in its scope. The measure should have been extended to other diseases so as to bring the administration of public health in Scotland into line with England. An effective remedy might be found for cancer at any moment. It would be a tragedy if the poor people of Scotland could not get such remedy because of its costly nature.

Sir J. GILMOUR said that he appreciated the support of the Opposition in regard to this Bill. The problem of cancer, about which they were all anxiously waiting for a solution, was of such magnitude and so important that, in their judgment, it should be dealt with when it arose. No one could visualise either what the nature of the solution or the cost might be. In those circumstances they felt very strongly that if and when that solution was found there could be no reasonable doubt in the minds of anyone that Parliament would deal with it adequately and properly.

The Bill was read a third time, and passed.

Appointments.

COYTE, RALPH, M.B., B.S. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Queen's Hospital for Children, Hackney-road, E.

GALLOWAY, R. L., M.B., F.R.C.S. Edin., Assistant Surgeon, North Middlesex Hospital, Edmonton.

HUTT, C. W., M.D. Camb., D.P.H. Oxf., Lecturer in Hygiene and Public Health, Charing Cross Hospital Medical School.

LINDEBERG, E. W., M.B., Ch.B. Glasg., Certifying Surgeon under the Factory and Workshop Acts for the Friockheim District of the County of Forfar.

PUGMIRE, GERTRUDE E., M.R.C.S., L.R.C.P. Lond., Surgeon, North Dispensary, Vauxhall-road, Liverpool.

St. Thomas's Hospital: TOMPSON, B. E., M.B., B.Ch. Oxon., THOMSON, G. W. R., M.R.C.S., L.R.C.P. Lond., REES, W. E., M.B., B.S. Lond., DE JERSEY, G. W. S., M.R.C.S., L.R.C.P. Lond., WRIGLEY, A. J., M.B., B.S. Lond., BARRETT, J. C., V.C., M.B., B.S. Lond., CRAWFORD, D. P., M.R.C.S., L.R.C.P. Lond., DOBIE, J. M., M.B., B.Ch. Cantab., Casualty Officers and Resident Anæsthetists; ARCHER, E. C., M.R.C.S., L.R.C.P. Lond., SIMS, T. H., M.B., B.Ch. Cantab., REA, R. H. T., M.B., B.Ch. Cantab., ALEXANDER, R. D., M.B., B.Ch. Cantab., Resident House Physicians; COOKE, A. M., M.B., B.Ch.Oxon., Resident House Physician for Children; MARKS, D. P., M.B., B.Ch. Cantab., BOGGON, R.H., M.R.C.S., L.R.C.P. Lond., ROBINSON, A. B., M.R.C.S., L.R.C.P. Lond., BATTSON, A. A., M.B., B.S. Lond., Resident House Surgeons; WIENER, R. A. K., M.R.C.S., L.R.C.P. Lond., Resident Orthopædic House Surgeon; NICHOLSON, H. W., B.A. Cantab., M.R.C.S., L.R.C.P. Lond., Resident House Surgeon (Ear); REES, D. I., M.R.C.S., L.R.C.P. Lond., Resident House Surgeon (Throat); ROBINSON, J. J. R., M.B., B.S. Lond., Senior Obstetric House Physician; HEATH, W. E., M.R.C.S., L.R.C.P. Lond., Junior Obstetric House Physician; SAUNDERS, K. G. W., M.R.C.S., L.R.C.P. Lond., Senior Ophthalmic House Surgeon; COVERDALE, H. V., M.B., B.Ch. Cantab., Junior Ophthalmic House Surgeon; NEILSON, D. F. A., F.R.C.S. Eng., AMESUR, C. A., M.R.C.S., L.R.C.P. Lond., HAWARD, F. C., M.R.C.S., L.R.C.P. Lond., BARRON, H. T., M.D. Lond., SELLICK, R., M.R.C.S., L.R.C.P. Lond., SWORN, B. R., M.R.C.S., L.R.C.P. Lond., MARRINER, H. L., F.R.C.S. Edin., GREY J. C. P., M.R.C.S., L.R.C.P. Lond., WALFORD, A. S. H., M.B., B.Ch. Cantab., LLOYD-WILLIAMS, P., M.R.C.S., L.R.C.P. Lond., L.D.S., MILLER, A. K., M.R.C.S., L.R.C.P. Lond., MILLER, N. A., M.R.C.S., L.R.C.P. Lond., SHIRES, B., M.B., Ch.B. Edin., RICKMAN, J., M.B., B.Ch. Cantab., BROCKMAN, E. P., M.B., F.R.C.S. Eng., GILLAM, J. F. E., M.R.C.S., L.R.C.P. Lond., AMIES, C. R., M.R.C.S., L.R.C.P. Lond., PLUM, D., M.R.C.S., L.R.C.P., MILFORD, R. D., M.R.C.S., L.R.C.P. Lond., WALTER, A. G., M.R.C.S., L.R.C.P. Lond., CHIESMAN, W. E., M.B., B.Ch. Cantab., ALSTON, R. B., M.R.C.S., L.R.C.P. Lond., EDWARDS, J. L., M.B., B.Ch. Cantab., GIBBENS, J. H., M.R.C.S., L.R.C.P. Lond., BELILIOS, A. D., M.R.C.S., L.R.C.P. Lond., THORNTON, F. S., M.R.C.S., L.R.C.P. Lond., Chief Assistants and Clinical Assistants.

Vacancies.

For further information refer to the advertisement columns.

Birmingham City Education Committee.—Asst. Sch. M.O. £600.
Birmingham, Selly Oak Hospital.—Res. Jun. Asst. M.O. £300.
Bradford Royal Eye and Ear Hospital.—Res. H.S. £120.
Bristol General Hospital.—Hon. Clin. Assts.
Cambridge, Addenbrooke's Hospital.—H.S. £130.
Cambridge, Mental Hospital.—Med. Supt. £800.
Cancer Hospital, Fulham-road, S.W.—Surg. Reg.
Cardiff City Mental Hospital, Whitchurch, near Cardiff.—Locum Tenens. 7½ guineas weekly.
Cardiff, King Edward VII. Welsh National Memorial Association.—Asst. Tub. O. £600.
Cardiff, Welsh National School of Medicine.—Lecturer in Pathology and Bacteriology. £750.
Central London Throat, Nose, and Ear Hospital, Gray's Inn-road, W.C.—Res. H.S. £75.
Chelsea Hospital for Women, Arthur-street, S.W.—Jun. H.S. At rate of £100. Also Dental S.
Corporation of London Public Health Department.—Sanitary Inspector. £238 15*s.* 6*d.*
East London Hospital for Children and Dispensary for Women, Shadwell, E.—Asst. P. £50.
General Lying-in Hospital, York-road, Lambeth, S.E.—Res. M.O. At rate of £100.
Hospital for Sick Children, Great Ormond-street, W.C.—H.S. and H.P. Each at rate of £50.
Hove Hospital, Sackville-road.—Res. M.O. £175.
Iraq Health Department.—Two M.O.'s. Rs.1200.
Italian Hospital, Queen-square, W.C.—Hon. Radiographer.
Liverpool, Hospital for Consumption and Diseases of Chest, Mount Pleasant.—Asst. M.O. and Pathologist. £150.
London Royal Free Hospital, School of Medicine for Women, 8, Hunter-street, W.C.—Sen. Second and Third Assts. for Obstetrical and Gynæcological Unit. £350 to £500. Also Res. Asst. Pathologist. £125.
Maidstone, West Kent General Hospital.—H.S. £220.
Manchester, Ancoats Hospital.—H.S. At rate of £100.
Manchester City Education Committee.—Asst. Sch. M.O. £600.
Manchester, Northern Hospital for Women and Children.—Sen. H.S. and Jun. H.S. £130 and £100 respectively.
Margate, Royal Sea Bathing Hospital.—H.S. At rate of £200.
Metropolitan Asylums Board.—Appointments in Tuberculosis Service. Sen. Asst. M.O.'s. £650. Jun. Asst. M.O.'s. £500.
Metropolitan Hospital, Kingsland-road, E.—Pathologist.
Mildmay Mission Hospital, Austin-street, Bethnal Green, E.—Sen. Res. M.O. and Jun. Res. M.O. £140 and £100 respectively.
Newcastle-upon-Tyne, Royal Victoria Infirmary.—Two Jun. Non. Res. H.S.'s. At rate of £100.
Northamptonshire County Council.—M.O.H. and Sch. M.O. £1100.
Prince of Wales's General Hospital, Tottenham, N.—Clin. Assts.
Prison Medical Service.—M.O. £495.
Queen's Hospital for Children, Hackney-road, Bethnal Green, E.—H.P. At rate of £100.
Rochester, St. Bartholomew's Hospital.—Res. Surg. O. At rate of £250.
Royal Northern Hospital, Holloway, N.—Clin. Assts.
St. George's Hospital, S.W.—S. and Asst. S.
Salford Royal Hospital.—Res. Surg. O. £200.
Sheffield, Jessop Hospital for Women.—Asst. H.S. At rate of £100.
Singapore, College of Medicine.—Prof. of Biochemistry and Prof. of Biology. Each $850–$1000.
South Shields County Borough.—Ven. Dis. M.O. £750.
University College Hospital, Gower-street, W.C.—Med. Reg. £150. Also Hon. Dental S.
West Middlesex Hospital, Isleworth.—Asst. Med. Supt. £250.
Willesden General Hospital, Harlesden-road, N.W.—Hon. P.
York County Hospital.—H.P. £150.

The Chief Inspector of Factories, Home Office, London, S.W., announces a vacant appointment for a Certifying Factory Surgeon at Peterhead, Aberdeenshire.

Births, Marriages, and Deaths.

BIRTHS.

AIKMAN.—On Nov. 12th, at Westwood, Beaconsfield, the wife of Kenneth Blackie Aikman, M.D., of a daughter.
COCKING.—On Nov. 15th, at Strada Mezzodi, Valetta, Malta, the wife of Surgeon-Lieutenant-Commander A. Wilkinson Cocking, R.N., of a son.
WHITFIELD.—On Oct. 16th, at Trimulgherry, India, the wife of Captain C. A. Whitfield, R.A.M.C., of a daughter.

MARRIAGES.

THOMAS—LAST.—On Nov. 3rd, at St. Mary's, Bryanston-square, John Oscar Thomas, *M.C.*, M.D., M.R.C.P., to Dorothy Mary, daughter of Mr. and Mrs. Last, of Roselands, Clacton-on-Sea.

DEATHS.

BARDSLEY.—On Nov. 12th, Percy Crofts Bardsley, M.B. B.C. Camb., aged 59.
BLUNDELL.—On Nov. 10th, at Holcombe, House, West Worthing, Hight Blundell, M.D., aged 61 years.
GERVIS.—On Nov. 11th, at Belsize-park, N.W., Arthur Frederick Gervis, M.R.C.S., L.R.C.P. Lond.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary.

Information to be included in this column should reach u in proper form on Tuesday, and cannot appear if it reaches us later than the first post on Wednesday morning.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

Monday, Nov. 23rd.

ODONTOLOGY: at 8 P.M.
Casual Communication:
Mr. G. B. Pritchard: A Case of Exposure of the Pulp of Uncertain Origin.
Paper:
Mr. Harold G. Watkin: The Evolution of Radiography.

Tuesday, Nov. 24th.

LIBRARY: The Library will be open until 10 P.M.
MEDICINE: at 5.30 P.M.
Discussion on
The Clinical Aspects, Treatment, and Prognosis of Nephritis.
To be opened by Prof. Hugh MacLean.

Wednesday, Nov. 25th.

COMPARATIVE MEDICINE: at 5 P.M.
Paper:
Dr. Carey F. Coombs, Dr. Hadfield, and Mr. G. E. Henson: A Note on the Endocarditis of Swine Erysipelas and its Relation to Endocardial Lesions in Man.

Thursday, Nov. 26th.

BALNEOLOGY AND CLIMATOLOGY: at 5 P.M.
Presidential Address:
Dr. Llewellyn J. Llewellyn on Diathesis.
UROLOGY: at 8.30 P.M.
Clinical and Pathological Evening.

Friday, Nov. 27th.

LIBRARY: The Library will be open until 10 P.M.
BALNEOLOGY AND CLIMATOLOGY: at 10 A.M.
Joint Meeting with the International Society of Medical Hydrology to discuss The Treatment of Rheumatism in Industry.
The President of the International Society of Medical Hydrology (Dr. Gustave Monod, of Vichy) will occupy the chair, and the following are expected to take part in the discussion:
Sir George Newman, K.C.B., Chief Medical Officer to the British Ministry of Health; Dr. Van Breemen (Holland); Dr. Kerr Pringle (Harrogate); Dr. Otto May (London); Dr. Buckley (Buxton); Dr. Jansen (Denmark); Dr. Louis Blanc (France); Dr. Schmidt (Czechoslovakia); Dr. L. J. Llewellyn (London); Dr. M. B. Ray (London); Dr. Fortescue Fox (London); and others.

STUDY OF DISEASE IN CHILDREN: at 8.30 P.M.
Discussion on
The Diagnosis and Treatment of Splenic Enlargements in Children.
To be opened by Sir Humphry Rolleston, and continued by Dr. G. A. Sutherland, Mr. Arthur Edmunds, Dr. L. G. Parsons (Birmingham), and Dr. Hugh Thursfield.

EPIDEMIOLOGY AND STATE MEDICINE: at 8 P.M.
Paper:
Dr. A. K. Chalmers: National Death-rates in Relation to National Differences in Housing.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.
MONDAY, Nov. 23rd.—8 P.M., Clinical Evening: Exhibition of Cases and Skiagrams.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole-street, W.
MONDAY, Nov. 23rd, to SATURDAY, Nov. 28th.—Fellowship of Medicine lecture, Medical Society, 11, Chandos-street, W. Mon., 5.30 P.M., Mr. G. R. Girdlestone: Tuberculosis of the Spine.—LONDON LOCK HOSPITAL, Dean-street, W. Instruction daily in the Out-Patient Department and lectures.—LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W. General Practitioners' Course, 4.30 to 6 P.M.—ROYAL WATERLOO HOSPITAL, Waterloo-road, S.E. Special Course in Medicine, Surgery, and Gynæcology. Lectures, demonstrations will be given in the Out-patient Department and Wards.—WEST END HOSPITAL FOR NERVOUS DISEASES, Welbeck-street, W. Lecture-demonstrations illustrated by cases, daily at 5 P.M.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C. 1.
POST-GRADUATE COURSE: OCTOBER-NOVEMBER, 1925.
CLINICAL LECTURES AND DEMONSTRATIONS.
MONDAY, Nov. 23rd.—2 P.M., Out-patient Clinic: Dr. Hinds Howell. 3.30 P.M., Alterations in the Visual Fields: Mr. Williamson-Noble.
TUESDAY, Nov. 24th.—2 P.M., Out-patient Clinic: Dr. Walshe. 3.30 P.M., Neurosyphilis: Dr. Hinds Howell.
THURSDAY, Nov. 26th.—2 P.M., Out-patient Clinic: Dr. Kinnier Wilson. 3.30 P.M., Methods of Testing the Eighth Nerve (in the Out-patient Department): Mr. Just.
FRIDAY, Nov. 27th.—2 P.M., Out-patient Clinic: Dr. Adie. 3.30 P.M., Cerebral Diplegia: Dr. Collier.
COURSE OF LECTURES AND DEMONSTRATIONS ON THE PATHOLOGY OF THE NERVOUS SYSTEM.
THURSDAY, Nov. 26th.—12 noon, Syphilis of Nervous System: Dr. J. G. Greenfield.
COURSE OF LECTURES AND DEMONSTRATIONS ON THE ANATOMY AND PHYSIOLOGY OF THE NERVOUS SYSTEM.
MONDAY, Nov. 23rd.—12 noon, The Autonomic System, (*b*) The Growth of the Mind: Dr. J. L. Birley.
Dr. H. J. Macbride is giving a COURSE OF EIGHT CLINICAL DEMONSTRATIONS, chiefly on METHODS OF EXAMINATION OF THE NERVOUS SYSTEM, in the Wards at 10 A.M. on Tuesdays and Fridays.
Mr. Armour and Mr. Sargent operate at the Hospital on Tuesday and Friday mornings at 9 A.M. or at such other times as may be announced.
J. G. GREENFIELD, Dean of Medical School.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.
THURSDAY, Nov. 26th.—3 P.M., Mr. T. H. C. Benians: The Investigation of Obscure Febrile Conditions. 4.30 P.M., Dr. F. G. Crookshank: Colon Bacillus Septicæmia.
Daily: In-patient and Out-patient Clinics in General and Special Departments, Operations, &c.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn-road, W.C.
FRIDAY, Nov. 27th.—4 P.M., Mr. Nicol Rankin: Ear Ache.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, 49, Leicester-square, W.C.
TUESDAY, Nov. 24th.—5 P.M., Dr. A. Whitfield: Diseases Due to Fungi (2).
THURSDAY.—5 P.M., Dr. A. M. H. Gray: Bacterial Affections.

MANCHESTER ROYAL INFIRMARY POST-GRADUATE COURSE.
TUESDAY, Nov. 24th.—4.15 P.M., Dr. T. H. Oliver: Functions of the Pituitary Gland.
FRIDAY.—4.15 P.M., Prof. J. Shaw Dunn: Recent Work on Renal Function.

JAMES MACKENZIE INSTITUTE FOR CLINICAL RESEARCH, ST. ANDREWS.
TUESDAY, Nov. 24th.—4 P.M., Dr. I. McKenzie: Insulin in the Treatment of Toxic Delirium.
THURSDAY.—5 P.M., Mr. Lane Roberts: Conditions Leading to Obstructed Labour.

ROYAL INSTITUTE OF PUBLIC HEALTH, 57, Russell-square, W.C.
WEDNESDAY, Nov. 25th.—4 P.M., Dr. W. M. Willoughby: Infection in Ships and the Prevention of Spread Therefrom.

CHADWICK PUBLIC LECTURES.
THURSDAY, Nov. 26th.—8 P.M. (in the Lecture Hall, Royal Institute of British Architects), 9, Conduit-street, W., Mr. A. Macmorran, K.C.: Sanitary Provisions of the New Public Health Act, 1925.

Notes, Comments, and Abstracts.

THE DEVELOPMENT OF SPEECH IN THE NORMAL CHILD.

IN an address to the Child Study Society, on Nov. 12th, Mr. Macleod Yearsley described the results of his study of the development of speech in his son. Too little attention has been given, he considers, to normal development, which is necessarily the basis of all attempts to build up speech in abnormal children. The literature of the subject, he states, is very meagre, and has received no very notable additions save the fourth chapter of Wylie's "Disorders of Speech" since the appearance of Preyer's "Mind of the Child" in 1890. After summarising previous observations Mr. Yearsley gave an account of his own.

The first methods of communication are laughing, crying, and grunting, with facial expression and gesticulation. These precede, and are concurrent with, the development of speech, towards which the first steps are automatic exercises of the speech organs such as babbling, crowing, mimic reading, and echolalia. Automatic unconscious babbling may be compared to kicking and movements of the arms, and begins very early. The sounds *a-a-ah*, *e-e-e* and *oo-eh* were present on the third day and *laa-laa* on the fourth. On the twenty-fourth a nasal consonantal sound *na-na* was noted, and by the seventieth day the following sounds were heard:—*Aah*, *aah-boo*, *aah-goo*; *boo*, *boo-ah*; *goo*, *goo-ah*, *gur-gur-rll*; *lloo*, *l-loo-oo*, *lloo-loo*; *maa*; *naa*; *ooh*, *o-ur*, *oo-mum*, *oo-laa*, and "something beginning with a D." Crowing occurred on the seventieth day, and mimic reading about the thirteenth month. The place of babbling is gradually usurped by echolalia—i.e., unintelligent parrot repetition of adult speech, and this is important as a preliminary exercise. There were distinct traces of echolalia as early as the seventy-sixth day, when the boy often repeated his own name without the least intelligent application. On the 182nd day this, and the imitation of other sounds, was well marked. The sound of a watch excited him to *tick-tick-tick*, and on the 364th day he made the same noise when shown the picture of a watch. Sounds repeated easily by echolalia may give difficulty when intelligent speech is developed later. Wylie states that "the first efforts of intelligent speech call into action the higher and more conscious functions of the cerebrum, which as yet have had little or no concern with the process of articulation. Everything goes to show that the higher centres can learn their own duties with regard to speech and train the lower centres to prompt and perfect obedience only after a period of persevering effort." The boy frequently repeated *Loo-cy* by echolalia, but later had difficulty with his *l's*, and called himself 'Ouis. The letter *y* was frequently substituted for *l* as in "yadies" and "yetters." Understanding of spoken words comes before speech. Preyer's child, however, did not develop an ability to discriminate words heard until the twelfth month. On the 117th day Louis could clearly recognise "bottle," "up," "daddy," and "mummy." On the 253rd day he associated "dad-dad" with his father and "Peter Pan" with a picture; ten days later he waved his hand and arm of his own volition on hearing "Ta-ta," and on the 290th day said "Nan-nan-nan" to his nurse. The 333rd day was noteworthy because he said "daddy" when his father entered; he remarked "bath" when the article arrived on the 362nd day, and at 1 year 27 days he correctly answered the time-honoured questions about the peculiar utterances of cows and dogs with the words "moo" and "bow-wow." Three days later, when he was told that his father was about to take a bath, he said "dad-dad ba-baa." At 1 year 35 days he noticed a dog on his own initiative and said "woo-woo," and at 1 year 96 days began to ask the names of things by pointing to them and saying "*Er?*" At 1 year 116 days he remarked, "Fire," on seeing a stove, and replied "Ba!" on being asked where he was going; and at 1 year 136 days he visited the Zoo and called the lions *woo-woos* (a name appropriate to dogs), referred to a bear as "Be'r" (he possessed a teddy-bear), and imitated the sea-lions!

Another phase in the normal development of intelligent speech is the invention of words. Preyer's boy said *Momm* at 10 weeks, and subsequently whenever he was hungry. Romanes records the case of twin boys who invented a language and could not be induced to speak anything else for several years; they understood each other perfectly. Usually the words are partly onomatopoeic. Louis invented only four, namely, *A-wah-wah* = a horse (1 year 168 days, changed 15 days later to *Ah-vah*); *Fuf-fuf* = a motor vehicle, *woo-woo* = a dog, and (1 year 300 days) *num-nums* = grapes, apparently derived from *neum-neum*, which was a sign of pleasure on eating. At 18 months Louis had a vocabulary of 36 words, to which he added 15 by 19 months. At 21 months he had about 200 words, and at 2 years he

had over 400. The first question was asked at 2 years 1 month, when he picked up a tie and said "What is that?" He has never ceased to ask questions since. The first answer was at 1 year 6 months, when he replied "A bear," and at 2 years 2 months he said, "No, I haven't." The first personal pronoun was used at 1 year and 5 months, when he remarked, "*My* daddy," and he said, "I want Nannie" at 1 year 10 months. The first personal pronoun, suggesting a realisation of personality, has been in continuous use since then, and 11 days after its first employment he used the second in "Oo want to go tatas too?" Sentences began at about 1 year 9 months, with such remarks as "Mummy cut it," and "Slide—hair—mummy's—broken—mend it." At 1 year 8 months he said (appropriately), "Roof — high — man — door—key—hole," which was an early step in speech production as it consisted of nouns only. At 2 years 7 months, on looking at a picture, he said, "Look at all those boats. There's one with smoke coming out of it. There's one with sails on it. There's one with a flag on it." A month later he expressed causality by saying, "When you get a lot of 'buses and taxis it makes *traffic*." At 2 years 11 months he was heard to murmur to himself, "Old Mother Goose, when she wanted to wander, didn't ride in a taxi or a 'bus. Oh, no! but she rode on the back of a very fine gander." At the same age he told his first story—on somewhat conventional lines—and developed an interest in puns. He said for instance, "That's a Russian engine—rushin' along," and "Is Brighton bright?"

The first three years of life may perhaps be apportioned as follows, always remembering that there is a certain amount of overlapping. The first year is spent in methods of communication which are part animal and part primitive human. These methods serve as a scaffolding beneath which articulate speech is built up. The second year is devoted to acquiring and experimenting with a vocabulary, and the third is occupied in perfecting and correcting. These three stages seem to recapitulate in brief the development of speech in the human race. The first year represents the long night of animal and pithecoid ancestry; the second the period of pleiocene or eolithic man, and the third represents the period of astonishingly rapid development from pleistocene or palæolithic man to the period of history. The marked difficulty of pronouncing words intelligently which came glibly with echolalia has been mentioned. It may be tentatively suggested that babbling and echolalia represent the earlier stages of proto-speech which made its mark on the organism very deeply, and is therefore more easily reproduced automatically in the young. Comparison of the speed at which speech was acquired by Louis and other contemporaries with the children's progress recorded by Wylie and Preyer shows a relative (and not undesirable) precocity in the modern child. Perhaps this may be explained by the fact that nowadays parents take a greater personal interest in their children.

THE TECHNIQUE OF THE ARTIST.

ANY attempt to grasp the technique of another art is a pleasant relaxation from the sometimes wearisome practice of one's own. Few medical men have leisure to attend any of the many series of critical lectures delivered by Mr. Stewart Dick at the National Gallery. Many will be grateful for their issue, suitably modified, in the form of a little handbook entitled "Hours in the National Gallery" (London: Duckworth, pp. 144, 3*s*. 6*d*.), to which Sir Charles Holmes has contributed an introduction. The volume is of convenient pocket size, and will help visitors to this and other galleries to keener appreciation of those differences in period, school, and manner that any collection rich in classical pictures has to offer.

CUTANEOUS PROTEIN TESTS.

IN a handbook entitled "Biological Therapy," Messrs. Parke, Davis and Co. have recently described the means of testing susceptibility to various specific proteins. The original material is extracted with water or physiological saline, to which a small quantity of a non-irritating preservative has been added. After the addition of glycerine it is concentrated and mixed with boric acid powder in sufficient quantity to make a rather stiff paste. It is claimed that the necessary activity and stability are thus obtained, and a small portion of each paste to be tested can be applied to as many as 25 small scarified areas on the arm without discomfort. A control reaction is observed, and a positive result is indicated within 30 minutes by the development of a definite weal not less than half a centimetre in diameter. For no apparent reason a test may be positive to-day and negative to-morrow, so that failure to get a reaction does not necessarily mean an absence of supersensitiveness, though it is doubtless accepted as such by the majority of observers. On the other hand, a positive result is said to be of definite significance. The unfortunate feature of the test is that a definite result is seldom given by one particular protein, whilst all others remain quite inactive; more frequently there is found a general idiosyncrasy for allied proteins. Such things as pollen, hair, feathers and dandruff, which come into direct contact with the respiratory mucous membrane, are more likely to give a definitely positive reaction than proteins, like those in food, which in the course of nature are subjected to digestive ferments. It may be noted that experiments by J. C. Walker[1] suggested that the younger the patient when asthma appears the greater the chance of protein sensitiveness being the important, if not the sole, ætiological factor, and in old people such a cause is certainly very rare.

MITCHELL BANKS MEMORIAL LECTURE AT LIVERPOOL.

Sir John Bland-Sutton delivered the Mitchell Banks Memorial Lecture on Nov. 5th in the Surgery Theatre of the University to a large audience representative both of the undergraduates and the profession as a whole. The lecturer chose as his subject Surgical Technique, and developed his theme with a world-wide wealth of allusion which made it at the same time fascinating to hear and provocative of thought. In speaking of methods of suture he passed from the simple armamentarium of the tailor bird through the use of living Michel clips in the shape of ants' mandibles by primitive peoples, up to the 50 different methods of closing the abdomen collected on the continent for a recent thesis. He deplored the lack of a perfect suture material. Turning to the varied methods of dressing wounds, he reminded his audience that, within the memory of those still living, cow-dung had been used for the purpose in this country, as it still was in India, where the "sanctity of the cow gave an added virtue to the cataplasm." The gilder used gold-beater's skin, whereas the carpenter employed glue and shavings, and in spite of all nature generally won. This observation had led him to discard dressings altogether except in cases where discharges required to be absorbed. The lecture, illumined by many a quiet shaft of humour, and borne along throughout on a deep under-current of philosophy, was brought to a close by a noble tribute to Lord Lister and the wonderful edifice of aseptic surgery which had been raised upon his work. At night Sir John Bland-Sutton was the guest of honour at the biennial dinner of the Liverpool Medical Institution. There was a crowded gathering of members and their friends at the Exchange Hotel. An interesting point was raised by Dr. Adami, Vice-Chancellor of the University, in replying on behalf of the guests. He pointed out how, in spite of the tributes constantly paid to the scholarship of classical centres of learning, none of our universities had followed their example in setting training of body and mind side by side as the ancients did. Only 200 of our 1800 undergraduates took part in the university athletics, and he thought that as medical men we should press for the establishment of a spacious gymnasium where men and women alike could discipline the body in rhythmic exercise and true physical culture, as an integral part of university life. Mr. R. Craig Dun, the president, who was in the chair, spoke of the Medical Institution and the admirable part it played in the professional life of the city.

THE CULT OF BEAUTY.

"WITH beauty comes the birth of beneficent optimism, the joy of living, the daring of creative effort, the elation and nobility of the personality—in a word, happiness." Such is the creed of the author of this book,[2] and when all allowance has been made for enthusiasm Dr. Frumusan does manage to convey the conviction that beauty and health go hand in hand. He urges that only with a return to the cult of the aesthetic in regard to our bodies will come that race regeneration with which the French as a nation are beginning to concern themselves. This return is to be accomplished by giving physical culture almost as important a place as mental culture in all educational establishments, and, while we in this country are considered by the author largely to have solved the problem by our school games, he would go further and cut down all time spent in school to five hours, of which three hours shall be devoted to study and two to physical exercise. But it is not only with the rising generation that Dr. Frumusan is concerned: the present generation is condemned for its habits, its clothing, its feeding, its ignorance on elementary matters of washing and cleansing, and, above all, for its sedentary method of living. Movement, from the cradle to the grave, is the keynote of the book, and while the author is often over-enthusiastic, there is running through it such a strong touch of common sense that it should make an interesting appeal to those concerned with health and the prevention of avoidable disease.

[1] Boston Med. and Surg. Jour., 1918, clxxix., 288.

[2] Beauty: How to Regain and Retain. By Dr. Jean Frumusan. Translated from the French by Elaine A. Wood. London: Bale, Sons and Danielsson, Ltd. 1925. Pp. 124. 7*s*. 6*d*.